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A

MANUAL OF GEOGRAPHY,

PHYSICAL, INDUSTRIAL, AND
POLITICAL

LONDON
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MANUAL OF GEOGRAPHY

PHYSICAL, INDUSTRIAL, AND POLITICAL

BY

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NEW EDITION



W. H. Hughes

LONDON

LONGMAN, GREEN, LONGMAN, AND ROBERTS

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201. g. 152



PREFACE.

THE present volume has resulted from the experience of many years of labour devoted to geographical inquiries, combined with an anxious desire on the author's part to raise the standard of popular education in regard to a subject of so much general interest and importance as *Geography*. A considerable period has elapsed since the writer called public attention to the defects of the ordinary method of teaching Geography in our schools *, and ventured to suggest the outlines of a more intellectual (and, as it seemed to him, a better) method than that commonly pursued. In doing this, he was led to remark on the want of a concise, well-arranged, and thoroughly systematic "Manual of Geography" as the chief drawback which the teacher was likely to experience in the attempt to carry out such views as he had briefly endeavoured to develope. The materials for such a work (consisting for the most part of manuscript notes made use of during his own personal experience in geographical tuition) lay beside him at the time; but other avocations required more immediate attention, and they remained without any attempt on his part to prepare them for the press. He was not without the expectation, that, during the interval, some abler pen than his own would have been employed to supply a want so extensively felt and admitted; but, in the continued absence of any *popular* work which can rightly lay claim to the accomplishment of such a purpose, he at length determined on submitting the present "Manual" to the notice of the public.

* "Remarks on Geography, as a Branch of Popular Education," &c.: by W. Hughes. London, 1847.

The author readily admits the improved nature of the estimate formed by several writers of the meaning and objects of Geography, and warmly coincides in the enlarged share of attention bestowed within a recent period on that branch of it which is known as "Physical Geography." It is, however, not merely the *theory* of physical geography, but the *appliance of its laws to the description of the various countries*,—and the elucidation thereby (in so far as possible) of the industrial pursuits, the manners, customs, and social condition of different nations,—that is wanting, in order to render Geography *a branch of science*, and a really intellectual pursuit. If geography is to be taught as a science, remarks an able writer *, "it should not only describe, it should compare, it should interpret, it should rise to the *how* and the *wherefore* of the phenomena which it describes." The present volume is (the author believes) the first systematic attempt to carry out such a principle,—to *teach physical geography as the basis of other geography*,—and to *apply known facts respecting the external features, climate, and natural productions* (mineral, vegetable, and animal) *of the globe*, to the description of the varied social phenomena which different nations present to view.

It is a source of high gratification to the author to find that his efforts in this respect have obtained the warm commendation of many among those whose experience renders them the most competent judges of the merits of his work. The present edition has been carefully corrected throughout, and its information brought down to the latest period.

The large proportion which the description of Europe bears to the extent of the present volume does not seem too considerable, when we reflect on the superior importance of that continent, in many respects, to any of the other great divisions of the globe; and especially when we consider

* "The Earth and Man," by Arnold Guyot. Translated from the French by C. C. Felton.

the intimate relationship (by means of commercial intercourse and other circumstances) maintained between our own country and most of the other European nations. Europe demands, indeed, a share of attention on the part of the learner which is altogether disproportionate to its mere geographical extent. For reasons analogous to those here referred to, the longest chapter in the volume is devoted to a description of the British Islands, and considerable attention is given, through the entire work, to the subject of the British Colonies in different parts of the globe.

In the arrangement of this "Manual," the author has regarded as a primary object the production of a work capable of being *read with interest*, in preference to the merely ordinary uses of a geographical class-book. While books on Geography consist chiefly of lists of names, arranged in a dull and monotonous succession of alphabetical or other tables, so long will their subject be regarded as dry and repulsive, and its pursuit be felt by the learner as a task equally unattractive and unprofitable. Mere *names* — simply as such — as the judicious teacher will always keep in view, are of no use, and only acquire a value when they are associated with facts or circumstances which render them deserving of being committed to memory, and which, in doing so, impart to them an interest which is itself the best incitement to their retention in the mind.

In conclusion, the author may remark that the present "Manual," though of larger dimensions than most geographical text-books, comprehends no more than experience justifies him in believing may be readily and profitably taught in the higher class of schools; and embodies no fuller detail than he has been in the practice of imparting (by means of oral instruction, combined with the extensive use of maps) to his pupils at Highbury and elsewhere. For a testimony to the results of his labours of such a description, he may perhaps be excused for referring to the

Report of Her Majesty's Inspector of Normal Schools upon the condition of the Battersea Training Institution. In speaking of the geographical tuition which had, up to that time, been pursued, Professor Moseley observes—"It is but due to Mr. Hughes to state that no course of Lectures given in this Institution appears to have commanded, more entirely than his, the attention of the students, or to have accomplished in every respect more fully the objects for which it was delivered."*

Geography is a subject which is eminently progressive in its character, and the materials for which accumulate in the present day with unprecedented rapidity. In the final arrangement of this volume, care has been taken to embody the latest information, both statistical and otherwise, respecting the different countries of the globe, and to notice the changes which the events of recent years have occasioned in their political and commercial relations.

W. H.

Stoke-Newington, August, 1856.

* Report on the Battersea Training Institution, by the Rev. H. Moseley, M.A., F.R.S., &c. 1846: in "Minutes of the Committee of Council on Education."

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MANUAL OF GEOGRAPHY.

CHAPTER I

GENERAL DIVISION OF LAND AND WATER.

(1.) THE entire surface of the earth is estimated to contain about 197 millions of English square miles, of which the *land* (so far as at present known) occupies about $51\frac{1}{2}$ millions, and the *water* $145\frac{1}{2}$ millions. It is possible that there may be considerable tracts of land yet undiscovered within the limits of the polar regions, but these cannot be so great as to affect materially the proportions of the above estimate. The solid portion of the earth's surface occupies, therefore, little more than one-fourth part of its entire extent.

(2.) The Northern Hemisphere (that is, the portion of the globe which lies to the north of the Equator,) contains a much larger quantity of land than the southern half; and in that part of it which is distinguished as the North Temperate Zone, the proportion of land to water is greatest, being nearly equal to one half of its entire extent. Regarding the whole surface of each zone* as *unity*, the decimals in the following table express the respective quantity of land in each :

* The *Zones* are portions of the earth's surface limited by the Tropics and Polar Circles, forming (as it were) *belts* round the entire circumference of the globe. The space between the Tropics forms the *Torrid Zone*, which is divided by the Equator into two equal portions, one half lying to the north, and the other to the south, of that line ; — the space between the Tropic of Cancer and the North Polar (or Arctic) Circle forms the *North Temperate Zone*, and the similar space between the Tropic of Capricorn and the Antarctic Circle constitutes the *South Temperate Zone* ; — and the portions of the globe which extend from the Arctic and Antarctic Circles to the Poles form respectively the *North Frigid Zone* and the *South Frigid Zone*, the latter of which is, for the most part, unexplored.

In the Northern half of the Torrid Zone	-	-	-	26046
„ Southern half of ditto	-	-	-	23462
„ North Temperate Zone	-	-	-	49192
„ South Temperate Zone	-	-	-	08477
„ North Frigid Zone, about	-	-	-	31785

(3.) The water (which, as we have seen, covers so large a portion of the earth's surface) is in reality one vast, continuous, and connected ocean, which everywhere surrounds and insulates the land. It is, however (for convenience of description), requisite to have divisions, and a glance at the Map of the World will show that it may be regarded as forming three great basins,—the *Pacific Ocean*, the *Atlantic Ocean*, and the *Indian Ocean*, which are partially separated from one another by the masses of land that form the great continents and islands. To these may also be added two other divisions,—the *Arctic* and *Antarctic Oceans*, by which names are respectively distinguished the bodies of water situated within the limits of the Arctic and Antarctic Circles, and probably reaching to the Poles. There are, however, no natural limits to these last-named divisions: the Arctic Ocean seems to belong naturally to the basin of the Atlantic, and the Antarctic is equally connected with the waters of the Pacific, the Atlantic, and the Indian Oceans. In its widest part (at the equator) the Pacific Ocean stretches over half the circumference of the globe, and alone occupies a much greater extent than the whole of the land on the earth's surface. The smaller portions of water, which form inland seas, gulfs, bays, &c., will be noticed, as they successively occur, in describing the different countries to which they are adjacent.

(4.) The land, which is exceedingly irregular in its distribution, forms two great masses, or *continents*, distinguished as the Eastern Continent (or Old World) and the Western Continent (or New World). The main body of the Eastern Continent extends in a general east and west direction, while the Western Continent stretches in length from north to south,—facts which, as we shall hereafter see, are connected with the general direction of the mountain chains, and great masses of high land, in each.

The eastern continent is divided into Europe, Asia, and Africa; and the western continent into North America and South America. Each of these divisions is, indeed, properly regarded as a continent in itself. Australia, an extensive and detached tract of land, situated to the south-eastward of Asia,

is also sufficiently large to be entitled to the appellation of continent.

There are, then, in all, six continents—four in the eastern, and two in the western, hemisphere. The continents of Europe, Asia, and North America, are situated wholly to the northward of the equator, or in the northern hemisphere. Africa and South America are also partly in the northern half of the globe. Australia is the only one of the continents that is entirely within the southern hemisphere.

Besides the above-named continental regions, there are a vast number of smaller portions of land, or *islands*, distributed over different parts of the ocean. These exhibit every variety of form and size. Sometimes they are numerously grouped together, so as to constitute archipelagoes. In general, islands are regarded as belonging to that continent to which they are most nearly adjacent. But the numerous insular groups that occur in the Pacific Ocean, within the tropics, are regarded as forming, under the appropriate name of Polynesia, a separate division of the earth.

Europe, Asia, Africa, America, Australia, and Polynesia, constitute, in modern geography, the six great divisions of the globe.

We shall proceed to describe successively these different portions, commencing with Europe, which, though one of the smallest, is, in a moral and social (as well as in a commercial) point of view, by far the most important, and the inhabitants of which have made the greatest progress in arts and letters, in the development of industry, and in the successful cultivation of all the pursuits of civilised life.

CHAPTER II

EUROPE.

PHYSICAL GEOGRAPHY OF EUROPE.

SECTION I. — EXTENT AND BOUNDARIES.

(5.) EUROPE is the north-western part of the eastern continent, and the smallest of the three portions into which it is divided. The most northern point of its mainland, called Nordkün *, is in N. latitude $71^{\circ}6'$, and its most southern, the Point of Tarifa (in Spain), in lat. $36^{\circ}1'$; — its most eastern point, at the mouth of the small river Kara Baigarama, is in $68^{\circ}30'$ E. longitude; and its western extremity (Cape Roca) in $9^{\circ}28'$ W. longitude. Including, however, the important archipelago of the British Islands, the most western point of which — Dunmore Head, in the south-west of Ireland — is in W. longitude $10^{\circ}30'$, Europe may, in a general sense, be said to lie between the 36th and 71st parallels of north latitude; and between the 10th meridian of west, and the 60th of east, longitude. It is bounded on the north by the Arctic Ocean, on the west by the Atlantic Ocean, on the south by the Mediterranean Sea, the Sea of Marmora, the Black Sea and the chain of Mount Caucasus, — and on the east by the Caspian Sea, the river Ural, and the range of the Ural Mountains. These boundaries are, excepting on the eastern side, clear and well defined, and form a natural separation between Europe and the other portions of the globe.

(6.) *Dimensions.* — The greatest length of Europe, in a north-east and south-west direction, is from Cape St. Vincent (in Portugal) to a point in the chain of the Ural Mountains near the 57th parallel of latitude, a line drawn along which measures 3370 English miles; the greatest breadth, from Nordkün in the north to Cape Matapan in the south, is

* What is called the North Cape of Europe is situated on the island of Mageröe, a little to the north of the mainland, in lat. $71^{\circ}12'$.



2400 miles. But both the *average* length and breadth (especially to the westward of the 20th meridian) are very much diminished by the numerous indentations of the coast, by means of which the seas forming the opposite boundaries are brought within a short distance of one another. Including the islands which belong to it, the entire superficial extent of Europe is estimated to be equal (in round numbers) to about 3,700,000 English square miles.

(7.) *Inland Seas, Gulfs, &c.* — Of the numerous inland seas and gulfs which belong to Europe, the following are most deserving of notice. Beginning on the north, we find the *White Sea*, which is an offset of the Arctic Ocean, and has an area of 38,000 square miles. Situated in a high latitude, the White Sea is either wholly or partially covered with ice during three or four months of the year.

(8.) Belonging to the basin of the Atlantic, is the *Baltic Sea*, approached by the channels called the Skager-rack and the Kattegat, and terminating to the north in the Gulf of Bothnia, and to the east in the Gulfs of Finland and Riga. The Baltic Sea has an area of 135,000 square miles, and drains a large portion of the surface of Europe: it is generally shallow, in its western part not being more than from fifty to sixty feet in depth, and its deepest part (between the town of Memel, in Prussia, and the Island of Oland) not exceeding from 360 to 600 feet. The Gulfs of Bothnia and Finland are shallow throughout. Owing to the numerous rivers which it receives, the water of the Baltic is much less salt than that of the ocean, the proportion of salt which it contains not being more than $\frac{1}{3}$ rd of that found in sea-water in general. It is not subject to the phenomena of tides, which indeed only prevail to a slight extent in inland seas in general, and in many instances, as in the present, are altogether absent. †

The Baltic is entered by three narrow channels or straits, formed by the islands of the Danish Archipelago: these are called respectively the Sound (between the mainland of Sweden and the island of Zealand), the Great Belt (between the islands of Zealand and Funen), and the Little Belt (which divides Funen from the peninsula of Jutland). Of these, the Sound, which at its narrowest part is 12,985 feet (nearly two and a half miles) in width, is the most frequented passage; the Great Belt is eight miles, and the Little Belt three-quarters of a mile, wide.

The Baltic is partially frozen every winter, and the straits are usually impassable from December to April. In severe winters it has occasionally been completely covered with ice in its widest parts, and instances have occurred of armies marching across it at such periods. To the surrounding nations the Baltic is known as the *Ost-See*, or East Sea.

(9.) That portion of the Atlantic situated between the island of Great Britain and the opposite shores of Holland, Denmark, and Norway, is called the *North Sea*, and the part of it immediately adjacent to the shores of England and Holland is distinguished as the German Ocean. The North Sea is shallow in its southern part, but deepens considerably towards the north.

(10.) The *Zuyder Zee* (South Sea) is an offset of the German Ocean, which penetrates the shores of Holland, and which was chiefly formed by irruptions of the ocean in the early part of the thirteenth century. It is shallow, much obstructed by sand-banks, and liable to severe storms.

(11.) The Strait of Dover, $20\frac{1}{4}$ miles across in its narrowest part and 200 feet in its greatest depth, connects the German Ocean with the *English Channel*, which extends between the opposite coasts of England and France. The sea which flows between the islands of Great Britain and Ireland is called the Irish Sea.

Further southward, the broad arm of the Atlantic which washes the shores of France and Spain is called the Bay of Biscay.

(12.) On the south of Europe, the *Mediterranean*, which is the largest of inland seas, extends in length above 2400 miles, and covers nearly a million square miles. The depth of the Mediterranean is generally considerable, excepting between Sicily and Cape Bon (on the coast of Africa), where a submarine ridge occurs, upon which the soundings are from 50 to 500 feet. In the narrowest part of the Strait of Gibraltar the depth is nearly 1000 feet, which a little further to the east increases to 3000 feet. A maximum depth of 1600 fathoms (9600 feet) has been ascertained in the western half of the Mediterranean basin, between Spain and the island of Sardinia. Still greater depths, varying from 1000 to upwards of 2000 fathoms (6000 to above 12,000 feet) have been found in the more easterly division of this sea, between the islands of Malta and Candia.

Unlike most inland seas, the waters of the Mediterranean

exceed those of the ocean in saltness, the proportion of salt which they contain being nearly 5 per cent., while that of sea-water in general is from 3 to $3\frac{1}{2}$ per cent. A strong current flows into the Mediterranean through the Strait of Gibraltar, probably compensated by an under current in the opposite direction, though the amount of evaporation from so large a body of water, in a warm climate, is perhaps sufficient to carry off the quantity thus continually poured in, and increased by the rivers which it receives. The tides in the Mediterranean are slight, and in most parts scarcely perceptible, not rising to more than a few inches. The Strait of Gibraltar is 13 miles wide in its narrowest part.

Different portions of the Mediterranean are distinguished by names derived from the countries to which they are adjacent, as the Gulfs of Lyons and Genoa, the Sea of Tuscany, the Sea of Sicily, and the Ionian Sea. The Adriatic Sea is a long narrow arm which runs up to the eastward of the peninsula of Italy; and the name of the Archipelago is given to the portion between the shores of Greece and Asia Minor, which is thickly studded with islands. The extreme eastern part of the Mediterranean is also sometimes called the Levant.

(13.) The narrow channel of the Dardanelles (anciently called the Hellespont), which varies from $\frac{3}{4}$ of a mile to 2 miles in width, connects the Mediterranean with the *Sea of Marmora*, about 170 miles long and 48 miles in its greatest breadth. The Sea of Marmora in its central part exceeds 2000 feet in depth: its waters are united to those of the Black Sea by the channel of Constantinople (the ancient Thracian Bosphorus), which in its narrowest part scarcely exceeds $\frac{1}{2}$ a mile in width.

(14.) The *Black Sea* is an oval-shaped basin, which covers an area of 180,000 square miles. Along its western shores it has, in general, a depth of about 300 feet, which in its central portions increases to upwards of 1000 feet. At its north-eastern extremity the narrow Strait of Ienikale ($1\frac{1}{2}$ mile in width) connects it with the Sea of Azov, which is shallow throughout, not exceeding 40 feet in its deepest part. The Black Sea is much less salt than the Mediterranean, and $\frac{1}{4}$ th less so than the Atlantic, but is saltier than the water of the Baltic. Its northern shores are partially obstructed by ice during severe winters, and the navigation of the Sea of Azov is annually impeded from the same cause. The Black Sea

has no tides, but a strong current sets from it into the Mediterranean, through the channels of Constantinople and the Dardanelles.

(15.) The *Caspian Sea* is in reality a lake, and the largest in the world, covering a surface of 130,000 square miles. Its depth varies considerably, being near its northern shores only 12 feet, and adjacent to the east, south, and west shores, not more than 150 feet, but its central portion exceeds 2800 feet. Its water is salt, but less so than that of the ocean. The northern part of the Caspian is frozen in winter, and the ice at the mouth of the Volga does not break up until the month of April. This sea is remarkable as lying in a basin depressed below the general level of the waters of the globe, its surface having been ascertained to be 83 feet lower than the level of the Black Sea.

(16.) In consequence of the numerous indentations formed by the seas and gulfs above enumerated, Europe possesses a more extended coast-line, in proportion to its magnitude, than any of the other divisions of the globe. The total length of its coast is estimated to be about 19,500 miles, a ratio of 1 linear mile of coast for every 190 square miles of surface.

SECTION II.—SURFACE OF EUROPE — MOUNTAINS — PLAINS.

(17.) *Capes*.—Of the numerous capes or headlands which belong to Europe, the following are the most important; on the northern coast, Nordkün, and the North Cape, already noticed (Art. 5.): on the western coasts, the Naze or Lindesnæs, the south point of Norway; the Skawe, which is the northernmost point of Denmark; Cape la Hague, in the north-west of France; Cape Ortegal and Cape Finisterre, at the north-west corner of Spain; Cape Roca, the westernmost point of the mainland, and Cape St. Vincent, both in Portugal; and on the shores of the British Islands, Cape Wrath, the north-western point of Scotland; Cape Clear, in the south-west of Ireland; and the Land's End and Lizard Point, at the south-west extremity of England. On the south side, the Point of Tarifa, the most southern point of Europe, near Gibraltar in Spain; Cape Spartivento, the extreme southern, and Cape di Leuca, the south-eastern, termination of Italy; Cape Matapan, the most southern point of Greece, and Cape Passaro, the south-eastern point of the island of Sicily.

(18.) *Peninsulas*.—The following peninsulas require notice: the Scandinavian peninsula (which embraces Norway and Sweden) lying between the Baltic Sea and the Atlantic Ocean; the peninsula of Jutland, between the Kattegat and the North Sea; the Spanish peninsula (comprehending Spain and Portugal), between the Bay of Biscay, the Atlantic, and the Mediterranean; the peninsula of Italy, between the Mediterranean and the Adriatic Sea; the Grecian peninsula, between the Ionian Sea and the Archipelago, which forms in its southern part the smaller peninsula of the Morea; and the Crimea, between the Black Sea and the Sea of Azov.

(19.) The Isthmus of Sleswig, by which the peninsula of Jutland is connected with the mainland, is 25 miles across; but the two most remarkable isthmuses of Europe are those of Corinth and of Perekop. The Isthmus of Corinth, which joins the Morea to the rest of Greece, is less than 4 miles wide; and the Isthmus of Perekop, which unites the Crimea to the mainland, is only 5 miles across.

(20.) *General configuration of surface: Mountains*.—In a general sense, it may be said that the southern, western, and north-western portions of Europe are mountainous,—the central portions hilly or undulating,—and the eastern and south-eastern parts level. The most extensive series of high lands is that which extends from the shores of the Black Sea on the east, to the coast of Portugal on the west, and which occupies the greater portion of the Grecian, Italian, and Spanish peninsulas. But this is not continuous throughout: between the Gulf of Lyons and the Bay of Biscay, a plain extends across from sea to sea, and completely separates the mountains of the Spanish peninsula from the systems further eastward. The mountains which stretch from the shores of the Black Sea to the head of the Gulf of Genoa, form, however, a connected series of ranges, of which the eastern portion is called the *Balkan Mountains*, and the western (which extends in a semicircular form around the northern part of Italy) the *Alps*. The connecting portion between the eastern and western extremities may be distinguished as the Dinaric or Eastern Alps. The various mountain chains which stretch southward from the Balkan, and extend over the whole of the Grecian peninsula, we shall regard as part of the general system of the Balkan Mountains; and, similarly, the Apennines, which extend in a continuous chain

through Italy, may be regarded as an out-lying portion of the system of the Alps.

To the north of this main axis of elevation, the central portion of western Europe is overspread by two subordinate mountain systems, of which the eastern is called the *Carpathian Mountains*, and the western of which we shall describe under the general name of the *Mountains of Germany*, or the *Hercynian system*. The Carpathian Mountains are only separated by the valley of the river Danube from the northern ramifications of the Balkan and Alpine systems, and the Mountains of Germany consist of numerous detached chains, some of which are connected with the northern offsets of the Alps, and in some degree belong to that system of mountains.

To the west of the Alps, and separated from them by the valley of the Rhone, the *Mountains of France* form a detached system, of which the most continuous chain of heights is known as the Cevennes. The *Mountains of the Spanish peninsula* consist of the Pyrenees (which form the boundary between France and Spain) and numerous other chains, most of which run in an east and west direction, and between which are plateaus of considerable elevation.

In the north-west of Europe, the peninsula lying between the Baltic Sea and the Atlantic is occupied by the system of the *Scandinavian Mountains*. On the eastern frontier of Europe is the chain of the *Ural Mountains*; and on the south-east border, extending between the Caspian and Black Seas, is the range of *Mount Caucasus*, the most western prolongation of which occupies part of the Crimean peninsula.

(21.) The mountains of Continental Europe may thus be arranged under nine divisions, viz. the Balkan, the Alps, the Carpathian Mountains, the Mountains of Germany, the Mountains of France, the Mountains of the Spanish peninsula, the Scandinavian Mountains, the Ural Mountains, and Mount Caucasus, each of which we shall briefly describe.

(22.) The *Balkan Mountains* commence at Cape Emineh, on the shores of the Black Sea, and extend westward to the elevated knot of Sharra-tagh, lying under the 21st meridian. Their height is generally moderate, not exceeding on the average from 2000 to 3000 feet above the sea-level, and rarely attaining 4000 feet; in some places they form rather a high plateau than a mountain chain: the group of Sharra-tagh, however, rises to a height of 10,000 feet. The passes through the main range of the Balkan consist of deep and narrow defiles. On their north side (about the meridian of 23° E.) a branch range leaves the main chain, and stretches northward to the banks of the Danube: this may be dis-

tinguished as the North Balkan Mountains. To the south, three ranges leave the main chain : the most easterly of these is distinguished as the Little Balkan, which extends south-eastward to the neighbourhood of Constantinople ; the next (proceeding westward) forms the range of Despoto-dagh, the summits of which attain an elevation of 8000 feet, exceeding that of the central chain ; and the third in order constitutes the chain of Mount Pindus, which stretches, in numerous ramifications, through the whole of the Grecian peninsula. The average height of the crest of Pindus is between 5000 and 6000 feet, but many of the summits of the main chain, as well as those of the subordinate branches which it throws off, exceed this elevation. Mount Lacha (the ancient Olympus) is 9754 feet, and Mount Gaiona, the highest mountain in the modern kingdom of Greece, is 8239 feet high. A level plain extends across the Isthmus of Corinth, but the mountains re-appear in the peninsula of the Morea, the interior of which forms a high table-land, intersected by numerous river-valleys. The highest point of the Morea, Mount St. Elias, is 7900 feet in elevation. None of the mountains of Greece, however, reach the height of perpetual snow.

(23.) From the high mass of Sharra-tagh, the ranges of the Dinaric or Eastern Alps stretch in a north-westerly direction, parallel with the shores of the Adriatic Sea, to the meridian of 15° E. long., about which the *Alps*, properly so called, may be regarded as commencing, and whence they extend, in a semicircular sweep of about 700 miles, to the head of the Gulf of Genoa. The mean height of the Dinaric Alps is from 4000 to 5000 feet: the extensive mass of Mount Kom, near their eastern extremity, rises to about 9000 feet, and is covered with snow during great part of the year.

The Alps consist, in their eastern portion, of several parallel ranges, running in a general east and west direction : westward of the 9th meridian, these are diminished to two chains, divided by the valley of the river Rhone ; and still further to the west, where they bend southward, they form a single main chain, or axis of elevation, though with numerous offsets, which occupy the country on either side. In this, the most western portion, the entire breadth of the mountain-mass is about 100 miles : in their more eastern portion, the breadth is considerably greater, and between the 9th and 13th meridians is from 120 to 130 miles. The Alps are highest in their western part, where the crest of the range has an average elevation of between 8000 and 9000 feet : Mont Blanc, their loftiest summit, is 15,730 feet in elevation, and is (if we except the border chain of Mount Caucasus) the highest mountain in Europe. Many other summits in this part of the range exceed 12,000 feet in height. The more eastern portion of the Alps have an average elevation of between 6000 and 7000 feet ; but through their entire course numerous summits exceed 10,000 feet in height, and rise above the limits of perpetual snow, the line of which is here between 8000 and 9000 feet above the sea-level. The descent of the Alps is more rapid towards Italy than towards the north, on which side they form elevated plains and high mountain-valleys.

The passes over the Alps are at a great elevation : that of Mont Cenis (between Savoy and Piedmont), one of the most frequented, is 6770 feet above the sea ; the pass of the Great St. Bernard, near the highest point of which is the celebrated hospice of that name, 8170 feet ; that of Mont

Cervin, further to the eastward, is 11,100 feet, and is the highest pass in Europe, but is not practicable for carriages ; the great road of the Simplon, constructed by Napoleon, attains an elevation of 6585 feet ; and that over Mont Stelvio, near the head of the valley of the Adige, which leads from Tyrol into the plains of Lombardy, is 9170 feet, and is the highest carriage-road in Europe.

The glaciers, or vast fields of ice and frozen snow, which occur in the higher valleys of the Alps, are among their most remarkable and interesting features. They are situated on the north side of the chain, and owe their origin to the accumulation of the snow which falls from the sides of the mountains, and which becomes only partially melted during the short summer of these elevated regions. They are continually, though slowly, moving down the declivity of the valleys, and sometimes descend as low as the level of 3500 feet above the sea. Their surface and figure are mainly determined by the nature of the ground on which they rest : in those valleys which have little slope, the glaciers are nearly level, and have few clefts ; but when they rest on a steep slope, or on very uneven ground, their surface is broken into clefts and elevations, the clefts being many feet in width, and sometimes upwards of 100 feet deep. Their extent is also continually varying, sometimes decreasing for several years, while at other times they increase, descending further into the valleys and covering the meadows. Their margins are bounded by dykes of roundish blocks of stone, called *moraines*, which are continually pushed forwards, or abandoned, as the glaciers advance or recede. Along the central part of the Alps, from Mont Blanc to the frontiers of Tyrol, there are reckoned more than 400 glaciers, some of them only 3 miles in length, while others are from 18 to 21 miles long, from 1 to 2½ miles wide, and from 100 to 600 feet thick. Altogether, they are estimated to cover a surface of upwards of 1000 square miles, and form a sea of ice, from the inexhaustible reservoirs of which some of the principal European rivers are supplied.

To the north-west of the highest portion of the Alps, the chain of Mount Jura, which belongs to the same mountain system, extends in a north-east and south-west direction (along the borders of France and Switzerland), from the banks of the Rhone to the great bend of the Rhine, at Bâle. Mount Jura consists of several parallel ridges, with long valleys between them, and has an average elevation of between 3000 and 4000 feet. Several summits, however, exceed 5000 feet, and the snow lies on the higher portions of the chain for about seven months of the year.

In their most eastern portion, between the 12th and 15th meridians, several offsets from the northern face of the Alps advance far into the plains watered by the Danube, and some of them extend, though with greatly diminished elevation, close to the banks of that river. But the most important of the subsidiary chains of the Alpine system is that of the Apennines, which extends through the entire length of the Italian peninsula.

The Apennines commence near the head of the Gulf of Genoa, and are, in reality, a prolongation of that portion of the Alps which extends, to the s.e. of Mont Viso, along the shores of the Mediterranean. The average height of the crest of the Apennines varies from 3000 to 5000 feet, but in the central portion of the chain several summits are between

7000 and 8000 feet high, and Mount Corno, the highest, is 9521 feet. Their higher parts begin to be covered with snow in October, and are not entirely free from it until June. The valleys on the east side of the chain are at right angles to its general direction, while those on the west are longitudinal; owing to which circumstance the longer rivers are formed on that side, and flow in valleys parallel to the course of the principal chain. A tract of country of above two hundred miles in extent, along the west side of the Apennines, between the 41st and 43rd parallels, is of volcanic character, and at its southern extremity is Mount Vesuvius (an isolated summit, to the eastward of the bay of Naples), 3932 feet in height, and the only active volcano in continental Europe.

(24.) The valley of the Danube separates the northern offsets of the Balkan Mountains and the Alps from the Carpathians and the Mountains of Germany, and this valley is in some places narrowed to a mere rocky defile by the advancing ranges on either hand. From the bend of the Danube, east of the town of Moldova (near the meridian of 22° E.), the *Carpathian Mountains* extend,—at first in a general easterly, and afterwards in a north-west and westerly direction,—to the source of the river Oder, enclosing the plain of Hungary in a circular sweep of between 700 and 800 miles. That portion of the chain which runs east and west, along the south frontier of Transylvania, is distinguished as the Southern Carpathians, and numerous offsets from these and the adjacent portions of the main range extend over the mountainous region of Transylvania. In their north-western portion, two diverging chains branch off from the principal range, of which the more eastern (which contains the ridge of Mount Matra) extends to the bend of the Danube above Pesth; the other, distinguished as the Little Carpathians, advances to the banks of the same river near Presburg.

The higher portions of the Carpathian Mountains have an average elevation of between 5000 and 6000 feet: the group of Tatra (under the 20th meridian) contains ten peaks which exceed 8000 feet, and the highest of which is 8524 feet: peaks of still greater elevation are stated to occur in the more southern part of the system, on the borders of Transylvania. The Carpathians are steepest on their outward side, that is, towards Wallachia, Moldavia, and Galicia: they are, in general, exceedingly rugged, and the passes through them narrow and difficult. The valleys are numerous and picturesque, and the wild glens in the group of Tatra are interspersed with small lakes and waterfalls.

(25.) From about the 18th meridian (near the source of the Oder) westward to the banks of the Rhine, and from the course of the Danube northward to the 52nd parallel, is a tract of country rendered more or less hilly and broken in character by the numerous groups or chains of hills with which a great portion of it is covered. It is these various hill chains that we comprehend under the general designation of the *Mountains of Germany* (or the Hercynian system).* The average elevation

* The latter name is derived from that of an extensive forest (the *Hercynia Silva* of classical geography) which, in ancient times, stretched across nearly the entire region between the Rhine and the Vistula, to the shores of the Baltic, and the vestiges of which yet remain in the Schwarzwald, or Black Forest, and elsewhere.

of these chains is inconsiderable, not more than from 2000 to 3000 feet: the highest summits occur in the ranges called the Erz Gebirge and the Riesen Gebirge, which bound the plain of Bohemia on its n.w. and n.e. sides; the mountain called Schnee-Koppe, in the latter range, is 5274 feet. Ranges of less elevation bound the same plain to the s.w. and s.e. The Harz Mountains, an outlying group, considerably to the northward, 3658 feet in height, are remarkable for their metalliferous wealth.

In the western part of the Hercynian mountain system, the elevated plain of Bavaria, extending on both sides of the upper course of the Danube, is 1600 feet above the level of the sea. Further westward, the source of the Danube is at a height of 2200 feet: the high and hilly district in which it rises forms a part of the range of the Schwarz-wald, which extends along the eastern banks of the Rhine, in the middle portion of that river's course, and descends by a gradual slope to the level of its valley. Parallel to the Schwarz-wald, on the opposite side of the river, is the chain of the Vosges, which belongs to the mountain system of France. From the southern termination of the Schwarz-wald, a chain of heights stretches eastward between the upper courses of the Rhine and the Danube, and, passing round the Lake of Constance and through the portion of the Tyrol known as the Vorarlberg, unites with the Alps on the eastern borders of Switzerland.

(26.) The *Mountains of France* consist of the long and narrow chain of the Cevennes, which extend in a general north and south direction, and separate the basin of the Rhone from the upper part of the Loire: their elevation is moderate, not exceeding on an average from 2000 to 3000 feet, and the highest summit, Mont Mezin, being only 5819 feet. Further north, and running in the same general direction, is the chain of the Vosges already mentioned, extending along the left side of the valley of the Rhine, and from 2000 to 3000 feet in average elevation. The Vosges are not connected with the Cevennes by any continuous chain, but the small Plateau of Langres, situated between the 47th and 48th parallels, and intermediate between the two ranges, has an elevation of 1000 feet. From this plateau, another series of heights advances northward between the valleys of the Moselle and the Meuse, under the name of the Ardennes, the greatest elevation of which does not exceed 1800 feet.

The highest portions of the French mountain system occur, however, to the westward of the Cevennes, from which two ranges branch off about the parallel of $44^{\circ} 30'$. One of these forms the Mountains of Forez, lying between the valleys of the Upper Loire and its tributary the Allier, and the other the Mountains of Auvergne, which constitute rather a group or high mountain region than a chain. The highest summit of the Mountains of Auvergne, in the group of Mont Doré, is 6221 feet: several other of their elevations exceed 5000 feet. But the Mountains of Auvergne are chiefly remarkable on account of the numerous volcanic cones and craters which they contain, and which exhibit the manifest traces of former igneous action. They form, in fact, a volcanic region which extends from 40 to 50 miles in length, and about 20 in breadth, and within the limits of which as many as 300 minor (and now extinct) volcanos occur. The highest of these, the Puy de Dôme, is 4846 feet in elevation. The aspect of the whole district is remarkably striking; naked cones and dome-shaped mountains, destitute of vegetation, pre-

senting waving streams of lava, and extensive and desolate tracts of ashes, rise to the height of several thousand feet. Their summits are often found to be penetrated with deep and yawning craters, whose rugged edges form the commencement of hideous channels and gorges which surround the mountains.

(27.) *The Mountains of the Spanish Peninsula.*—The highest part of the plain which separates the Cevennes from the Pyrenees, and through which runs the Canal of Languedoc (connecting the Garonne with the waters of the Mediterranean), is 600 feet above the sea. The Pyrenees extend in a continuous chain of 300 miles in length, from Cape Creuse (on the Gulf of Lyons) to the innermost angle of the Bay of Biscay; before reaching which they throw off a branch chain, which stretches westward for a further distance of about 400 miles, along the shores of the Bay of Biscay, to Cape Finisterre. This western prolongation of the Pyrenees (different portions of which are sometimes termed the Asturian and Galician Mountains, and which has a variety of local designations) we shall speak of as the Cantabrian Mountains.

The highest crest of the Pyrenees varies in average elevation between 7000 and 9000 feet. The loftiest summits occur in the central part of the chain, where many of them exceed 10,000 feet in altitude; the highest, the Peak of Nethou, is 11,426 feet in elevation. All the higher portions of the chain rise above the level of perpetual snow, which is here about 9000 feet above the sea. Towards the eastern and western extremities of the chain, the mountains rise by a gradual ascent, and the passes over them are numerous and of trifling elevation; but in the central Pyrenees, the ascent is rugged and precipitous, and the roads across them consist of deep and narrow defiles, with high walls of rock on either hand. The Pyrenees throw off various branches on both sides of the chain, by which the entire breadth of the mountain region is increased to between 40 and 50 miles. The narrow valleys in their higher portions are traversed by rivers, and small lakes occur in many of them; some of these are above the level of the snow-line, and are always covered with ice, and many of those in lower situations continue frozen till the end of August. The southern face of the central chain is more rugged and precipitous than the other, so that the ascent on the side of Spain is generally more difficult and laborious than on the side of France, the French valleys generally rising to the crest of the chain by an easy and gradual inclination.

The Cantabrian Mountains have an average elevation of from 4000 to 6000 feet, but in their most western portion, near the source of the Sil (an affluent of the Minho), some of the summits exceed 10,000 feet. Their northern face descends by a rapid slope to the shores of the Bay of Biscay.

To the south of the Cantabrian Mountains, the interior of the Spanish peninsula forms a high plateau or table-land, which extends southward as far as the chain of the Sierra Morena, and sinks gradually on the west to the shores of the Atlantic, towards which its slope is directed by the long river-valleys which traverse it in an east and west direction. On the east side, the boundary of the table-land is marked by a succession of elevated ranges, which are connected with the Cantabrian Mountains near the source of the river Ebro, and which may be described under the general name of the Celtiberian Mountains. These, though not throughout a continuous chain, yet mark the limits between the high

regions of the interior, and the plains that border on the Mediterranean. Some of their summits attain an elevation of between 4000 and 5000 feet.

The table-land of central Spain has an elevation of 2200 feet above the sea: it is not uniformly level, but is crossed by two mountain chains, which extend in an east and west direction along the opposite sides of the valley of the Tagus. The more northern of these divides the valley of the Tagus from that of the Douro, and may be described, in its course through Spain, under the general name of the Castilian Mountains: where it enters Portugal, it is connected with the Sierra d'Estrella, and finally terminates at Cape Roca, the most westerly point of the European mainland. The general height of the Castilian Mountains is from 4000 to 5000 feet above the sea,—their relative elevation above the plateau from which they rise being, of course, considerably less: that part of the range called the Sierra de Gredos (between the 5th and 6th meridians w.), however, is 10,548 feet, and the Sierra d'Estrella 7524 feet.

The chain which extends to the south of the Tagus, and divides its basin from that of the Guadiana, forms the Mountains of Toledo, to the south of the city of that name, and further westward is known as the Sierra de Guadalupe: the average height of the Mountains of Toledo (which name we use as a general designation of the entire range) does not exceed from 3000 to 4000 feet above the sea. To the south of the Guadiana is the range of the Sierra Morena, the ascent of which, on its northern side, is of inconsiderable height, but which, on the south, sinks down by a rapid descent to the plains watered by the Guadalquivir, which, even in their eastern part, are more than 1000 feet lower than the level of the plateau to the north of the range. The average height of the Sierra Morena does not exceed between 3000 and 4000 feet: a western prolongation of this chain, though divided from it by the Guadiana (in the lower course of that river), extends along the south coast of Portugal, and terminates at Cape St. Vincent.

The Sierra Nevada, which extends along the south coast of Spain, and the general height of which varies from 6000 to 9000 feet, includes some of the highest summits in the Spanish peninsula, and nearly rivals the Pyrenees in altitude. Its highest point is the Peak of Mulhacen, 11,151 feet, which, as well as several other summits of the chain, rises above the limit of perpetual snow. The Mountains of the Sierra Nevada descend on the south with a steep and rapid slope toward the Mediterranean, on the immediate shores of which is a parallel range of less elevation, called the Alpuxarras.

(28.) The *Scandinavian Mountains* extend from Cape Lindesnæs or the Naze (the south point of Norway) to the most northern extremity of Europe, before reaching which they throw off to the eastward some rocky chains of trifling elevation, which stretch through the northern portion of Finland. Between the Naze and the 62nd parallel they are known as the Hardanger-field and the Lang-field; between the 62nd and 63rd parallels they are called the Dovre-field (a name which has sometimes been used to indicate the entire mountain system); and the portion further northward is distinguished as the Koelen Mountains.

The Scandinavian Mountains occupy the western side of the peninsula, extending close along the shores of the Atlantic. To the south of the 63rd parallel they form a high mountain plateau, the western side

of which is washed by the ocean, and is indented by numberless deep and narrow inlets, by means of which its waters penetrate into the very heart of the mountain region. These inlets, which are locally called *fiords*, are a peculiar and characteristic feature in the formation of Norway (the only parallel to which in this quarter of the globe is found in the narrow lochs on the western shores of Scotland). The mountains throughout rise abruptly from the sea-shore, and attain the greatest elevation of their crest at a distance in some places of not more than from 20 to 50 miles from the coast, while on their eastern side they descend gradually and by long slopes to the plains bordering the Gulf of Bothnia. In many places, the high plains which form the summit of the entire mountain-mass approach, and in some cases exceed, the level of perpetual congelation (which in the parallel of the Lang-field is about 4200 feet), and all the higher points which rise upon this elevated base penetrate above the snow-line. The highest part of the Hardanger-field is 5748 feet: Skagstol-tind, as the south extremity of the Lang-field, is 8101 feet, and the mountain called Snee-hætten, in the Dovre-field, is 8120 feet, and is probably the culminating point of the entire system.

The Koelen Mountains, which form more of a continuous chain, are from 2000 to 3000 feet in mean height; many of their summits exceed 5000 feet, and Sulitelma ($67^{\circ} 5'$ lat.) is 6178 feet. The North Cape, in the Island of Mageröe, which is a detached member of this mountain system, is a high mass of rock rising to 1161 feet in elevation, and broken into pyramidal cliffs by the force of the waves. The mountains which penetrate from the Scandinavian peninsula into Finland attain a height of from 3000 to 4000 feet in their northern part, but diminish in elevation as they advance southward.

(29.) The *Ural Mountains*, which form the eastern boundary of Europe, constitute a long and narrow mountain system, which extends in a continuous line from the shores of the Arctic Sea to the parallel of Orenburg ($51^{\circ} 30'$) through nearly 18 degrees of latitude, or more than 1200 miles. The mountains do not form a single ridge, but are throughout bordered to some extent by low parallel branches, which, however, in the northern half of the chain, are confined within narrow limits; but in the southern part, these branches constitute separate mountains to the west of the chief crest, and the entire system has there a width of upwards of 100 miles. The highest ridge has an average elevation of from 2000 to 2500 feet, which in the parallel of 57° is diminished by a central depression in the chain to 1400 feet, and near this portion of the system the slope is exceedingly gradual on either side. But both to the north and south of this depression, many rugged and rocky summits occur, several of which exceed 5000 feet in height. In the most northern part of the Ural Mountains, the elevation is considerably diminished, and the highest summit north of 66° does not exceed 3000 feet.

(30.) The chain of *Mount Caucasus* extends in a south-east and north-west direction between the Caspian and Black Seas, through a length of about 700 miles. Various branch chains and parallel ridges are connected with the central line of elevation: on the north the extreme limits of the mountain system are marked by the courses of the rivers Terek and Kouban, and on the south the mountains spread over an elevated district, in which are various plains, valleys, and defiles. The breadth

of the whole mountain region exceeds 150 miles. The eastern and western extremities of the Caucasus are of inconsiderable height, probably not more than 2000 feet; but the central portions of the chain form a high plateau, from 8000 to 9000 feet in altitude, and above which some peaks rise to a stupendous elevation. The highest summit, called El-burz, forms a mountain-knot (about the meridian of 43°), and is 18,493 feet in elevation, or nearly 3000 feet higher than Mont Blanc, so that it is really the highest of the European mountains!

The height of the line of perpetual snow in the Caucasus is about 11,000 feet. On the south-west, the mountains descend almost perpendicularly into the waters of the Black Sea, and on the north they terminate by a rapid and abrupt slope in the low plains of the Steppes. There are few passes through the main chain of the Caucasus; the Pass of Dariel (called by the ancients 'the Caucasian Gates'), the only one of which any particulars are known, lies along the eastern side of Mount Kasbek (long. 45° E.), and reaches at its highest point the great elevation of 8000 feet, passing between precipitous walls of rock of 3000 feet in altitude. The direct length of this defile is about 120 miles; it has, however, been made passable for carriages.

The mountain chain which extends along the south-east coast of the Crimea may be regarded as belonging to the Caucasian system; its highest elevation, Chatyr-dagh, is 5110 feet: three-fourths of the surface of this peninsula are, however, low, flat, and sandy, and belong to the region of the Steppes.

(31.) *Plains and Valleys.*—The space covered by the mountain regions above described bears but a small proportion to the entire surface of Europe, more than two-thirds of which consist of an immense plain. This vast level occupies the whole of Eastern Europe, extending from the foot of the Ural Mountains westward to the Baltic, and is continued along the southern shores of that sea, through Northern Germany, until it terminates in the lowlands of Holland and the adjacent plains of Belgium and north-western France. In its eastern portion it stretches across the entire breadth of Europe, from the Black Sea and the foot of Mount Caucasus to the shores of the Arctic Ocean: further westward, it is limited on the south by the regions of the Carpathian and German Mountains. If we disregard slight elevations, the great plain may even be said to extend along the whole western side of France to the very foot of the Pyrenees, where it terminates in the level district called the Landes. The eastern portion of England belongs, geographically speaking, to the same region, which also embraces the whole of continental Denmark.

The only interruption to the continuity of this great level occurs in the western part of Russia, near the source of the

river Volga, where the ground rises into steep and rocky hills which form the Plateau of Valdai, of small extent, and the highest elevation of which is only 1119 feet. A straight line drawn from London to the great bend of the Volga, below Simbirsk (lat. 53°), passes over an almost uniformly level region : Moscow, which lies a little to the north of such a line, is only 480 feet above the sea.

That part of the great plain which lies north of the 60th parallel, and has a gradual slope towards the Arctic Sea, is in great measure barren, owing to the severity of the climate ; in the extreme north, it exhibits vast tracts of dreary moss and heath, marshy in summer and frozen in winter. The southern slope of the plain, towards the Black and Caspian Seas, as far south as the 49th parallel, and limited eastward by the lower course of the Volga, is a country of great fertility. Its most south-eastern portion, however, extending over the lower courses of the Dnieper, the Don, and the Volga, along the Sea of Azov and to the foot of Mount Caucasus, forms the region of the *Steppes*, or grassy plains, which consists of two portions, the Higher and the Lower Steppes.

The Higher Steppes are situated to the westward of the Don, and include the greater part of the Crimea : their surface is in general not more than two hundred feet above the level of the sea ; they are covered with coarse rank grass, which feeds immense numbers of horses, but is unsuitable for cattle. In the hollows, along the banks of the rivers, the soil is capable of cultivation ; but in the Lower Steppes, which extend further eastward along the shore of the Caspian to the banks of the river Ural, with a breadth of from two hundred and fifty to three hundred miles, the soil consists of fine sand, mixed with shells, and produces no trees or shrubs, but only at certain seasons a scanty grass : it is, moreover, largely impregnated with salt, and numerous salt lakes or pools occur in this district. The aspect of the steppes is, from the perfect uniformity of the level, dreary and monotonous in the extreme,—a boundless plain stretching in all directions to the extreme verge of the horizon.

The Lower Steppes form part of an extensive region which is depressed below the general level of the waters of the globe, and of which the Caspian Sea occupies the lowest portion (Art.15.). This depression extends northward beyond the town of Saratov, on the Volga, and em-

braces 57,000 square miles of country, part of which, however, are situated in Asia.

In the western part of Russia, a large portion of the plain consists of marshy tracts, which extend over more than two hundred miles from east to west, and from fifty to one hundred north and south. The course of the river Pripet (a tributary of the Dnieper) lies through the middle of this immense swamp, which thence stretches northward past the sources of the Niemen.

The plain to the south of the Baltic is interspersed with sandy and marshy tracts, some of which are quite destitute of vegetation, while others are covered with heath: numerous small lakes and swampy pools occur among them. A similar formation prevails through great part of the Danish peninsula, in which small lakes and marshes abound. In the south-west portion of Denmark, and along the coast of Holland, the land is in many parts actually lower than the level of the adjacent sea, from the inundations of which it is protected by dykes, or immense mounds of earth and clay, artificially constructed. In France, the districts called the Landes consist of extensive plains of sand, interspersed with fens, marshes, and heaths, and form a tract which, in the extreme south-western part of the great plain, bears some analogy to the sterile region of the steppes, which occupy its most eastern portion.

(32.). Besides the extensive lowland last described, Europe contains the following plains: the *Plain of Bohemia*, surrounded by various ranges that belong to the Mountains of Germany, and which is, in fact, an elevated river-valley, watered by the upper portion of the Elbe.

The *Plain of Lombardy*, to the south of the Alps, and watered by the river Po, is distinguished by its great fertility.

The *Plain of Hungary*, or the Middle Danube, of great extent, and in general of the most fertile character, though in the portions immediately adjacent to the Danube and its tributary, the Theiss, many tracts are marshy and exposed to inundation: in some parts of Hungary, intermixed with fertile tracts, are districts of deep sand, distinguished by the appellation of *pustza*, which indicate by their appearance that they were once the bed of a great sea or an inland lake.

The *Plain of the Lower Danube*, which lies between the Balkan and Carpathian Mountains, embracing the level portions of Bulgaria and Wallachia, on either side, is also a region

of great fertility. The eastern part of this is not separated by any considerable elevation from the great level of Eastern Europe, of which it may, in fact, be regarded as an outlying portion.

(33.) Of the numerous river-valleys of Europe, the *Valley of the Rhine*, between Bâle and Mainz, and bordered on either hand by the ranges of the Schwarz-wald and the Vosges, is the most deserving of notice, and is distinguished by great beauty and fertility. But in all the hilly and mountainous districts, valleys of every possible variety of form and magnitude occur; they are, however, rather to be noticed as local features, than to be regarded in a merely general survey.

SECTION III. —DRAINAGE OF EUROPE—RIVERS—LAKES.

(34.) More than three-fourths of the running waters of Europe are discharged into inland seas, and it is by observing the nature and extent of the basins of these, and the character of their *watersheds*, (or boundaries by which they are divided from one another,) that we gain the clearest idea of its hydrography. Of the entire surface of Europe, it has been calculated that the White Sea receives the drainage of an area of 200,000 square miles, the Baltic of 800,000, the Mediterranean of 300,000, the Black Sea (including the Sea of Azov) of 900,000, and the Caspian of 700,000,—leaving only 800,000 square miles in which the rivers run directly into the Arctic and Atlantic Oceans.

The boundaries of the Mediterranean basin are marked by well-defined natural features, being, for the most part, formed by the high ranges of the Balkan, Alpine, and Pyrenean mountain systems; and the Scandinavian Mountains form an equally distinct termination to the drainage of the western side of the Baltic. But between the Baltic and White Seas on the one side, and the Black and Caspian on the other, the line which divides the sources of rivers falling respectively into each is not indicated by any mountain chain, nor by ground of any considerable height. The watershed of Eastern Europe is, in fact, merely the highest portion of the great plain, which thence slopes gradually towards the seas on either hand; and the unimportant Plateau of Valdai, already described (Art. 31.), constitutes its greatest elevation. That part of the watershed which runs in a south-westerly direction

from the Plateau of Valdai to the Carpathian Mountains passes through the marshy region in which the sources of the Niemen, and of many of the small tributaries of the Pripiet and Dnieper, are found.

(35.) *Rivers flowing into the White Sea.*—The Mezen, about 480 miles in length* ; the Dvina, 760 miles, formed by the union of two branches, the Ioung and the Soukhona, of which the latter flows from Lake Koubinskœ ; and the Onega, 380 miles. All of them rise in the great plain, and the Dvina has the most extensive basin.†

(36.) *Rivers flowing into the Baltic Sea.*—The Neva, which flows into the head of the Gulf of Finland, though only 46 miles in length, is of considerable importance, and has a vast volume of water, since it is the outlet of the great lakes of Ladoga and Onega, and drains a large area of the surrounding country : the Neva has a mean breadth of 1500 feet, and a depth of 50 feet, but is frozen over for five months of the year. The Narva flows from the Lake of Peipous, or Tchoudskoé, into the Gulf of Finland ; the southern Dvina, 550 miles, flows into the Gulf of Riga, and is navigable for the greater part of its course ; the Niemen, 400 miles :—all of the above have their sources in the great plain, and their basins lie wholly within its limits. The Vistula, 630 miles, rises in the western extremity of the Carpathian Mountains, and drains a surface of 76,000 square miles ; the Oder, 550 miles, flows from the eastern part of the Mountains of Germany, near their junction with the Carpathians,—its source is 1705 feet above the level of the sea : both the Vistula and the Oder are navigable for the greater part of their courses.

On the side of Sweden, the Baltic receives numerous rivers, of which the principal (beginning from the north) are the Tornea, the Lulea, the Pitea, the Umea, the Indals, and the Dal, all of which have their origin in the Scandinavian Mountains, and form lakes in the upper portions of their courses.

(37.) *Rivers falling into the Mediterranean.*—As the mountain chains which lie around the Mediterranean on the side of Europe are nowhere at a great distance from its shores, the rivers which it receives have generally short courses. The Xucar, 250 miles, and the Ebro, 420 miles, both flow from the eastern side of the Spanish table-land. The Rhone, 490 miles, rises in the highest region of the Alps, and, passing in its course

* The lengths of rivers here given are in English miles, and (unless otherwise stated) are reckoned from their mouths to their most distant sources, including only the *principal* windings of their streams. They must only be regarded as approximate, since the real length of a river's course, including all its meanderings, can only be determined by surveys on a larger scale, and of more minute accuracy, than we possess of most countries. They serve, however, to indicate comparative results.

† By the *basin* of a river is meant the whole extent of country which it drains, including all its tributary streams and affluents ; and similarly, in speaking of the basin of a sea, we understand the entire region watered by all the rivers which it receives.

through the Lake of Geneva, falls into the Gulf of Lyons ;—it is navigable below the Lake of Geneva. The Arno, 150 miles, and the Tiber, 210 miles, both water the western side of the Italian peninsula ; the Po, 450 miles, and the Adige, 250 miles, flow through the Plain of Lombardy and enter the Adriatic Sea near its northern extremity. The Vardar, the Struma, and the Maritza, the last 320 miles, flow through Turkey and enter the Archipelago.

(38.) *Rivers flowing into the Black Sea* (including the Sea of Azov).—The Danube, 1630 miles, is the second of the rivers of Europe, both in length of course and in the area of its basin, which is 310,000 square miles in extent. The most distant sources of the Danube are in two small streams (the Brigach and the Briege), which rise on the eastern slope of the Schwarz-wald or Black Forest, at a height of 2200 feet above the level of the sea ; their joint stream unites, a little below, with a third source, to which the name of the Donau, or Danube, is given, and which is considered as the proper fountain of that river. The Danube thence flows across the plateau of Bavaria, through Austria and the Plain of Hungary, and between Bulgaria and Wallachia, until it enters the Black Sea by several channels, which form a swampy delta of considerable extent. Throughout its long course it receives on each side the waters of numerous tributary streams, of which the principal are the Inn, the Drave, the Save, and the Morava, on the south (or right-hand) bank, and the March or Morava, the Theiss, the Aluta, and the Pruth, on the north side : all of these are rivers of considerable magnitude. The Danube is navigable from its mouth up to Ulm (10° E. longitude), or through nearly the whole length of its course, excepting between the towns of Moldova and Gladova, where it passes (for a space of 60 miles) through a succession of rapids and shallows, interspersed with rocks and sand-banks, and where its valley is narrowed by the close approach of the mountains on either side (see Art. 24.). The lowest of these rapids, a short distance above the town of Gladova, forms the famous passage called the Iron Gate, where the stream rushes through a narrow channel, between stupendous rocks, with great rapidity and with an overpowering noise.

The Dniester, 700 miles, issues from a small lake on the north-east side of the Carpathian Mountains, and is navigable through the greater part of its course. The Dnieper, 1200 miles, rises among a marshy district in the great plain ; it is navigable from Smolensk to the sea, excepting for a distance of about 150 miles below Kiev, within which its navigation is impeded by rocks and cataracts : on its right bank the Dnieper receives the Pripet, already mentioned (Art. 31.), and, near its mouth, the Bong, which flows into the estuary formed by its mouth.

The Don, 1100 miles, which falls into the Sea of Azov, has its entire course through the great plain, and, owing to the little fall or inclination of its bed, is generally sluggish and full of shallows : it is only during particular seasons of the year that the numerous sand-banks which occur in it have sufficient depth of water over them to admit of its being navigated. The Kouban, 480 miles, rises on the north side of the range of Mount Caucasus, and flows westward along its base until it falls into a small gulf of the Black Sea, immediately to the east of the Strait of Ienikale.

(39.) *Rivers flowing into the Caspian.*—The Volga, which is the most considerable river of Europe, rises in the Plateau of Valdai, at a height of only 633 feet above the Caspian: its course is 2200 miles in length, and the area of its basin about 520,000 square miles, or nearly one-seventh of the whole surface of the continent. The Volga is navigable through nearly its whole length, and has considerable depth. At Nijnii-Novgorod, where it is joined by the Oka, it is 4600 feet wide; near Kazan, however, its width is only 600 feet, and at Saratov, 1200: but at Astrakhan, when in flood, at the melting of the snow, its width is nearly 5 leagues, and its vast stream flows among a multitude of islands which are linked together by forests. During great part of winter the Volga is frozen over, but at other times is the scene—and indeed the highway—of a most extensive traffic. The Oka, and the Soura, on its right bank,—and the Mologa, the Cheksna, and the Kama (the latter 900 miles in length), on its left, are among its most considerable tributaries.

The Ural, or Jaik, 1150 miles, rises on the east side of the Ural Mountains, and, passing round their southern extremity, enters the north end of the Caspian, forming throughout its course the boundary between Europe and Asia: it flows in a smooth channel, and is, in general, sufficiently deep for the navigation of small vessels. The Terek, 300 miles, rises among the highest parts of Mount Caucasus, and, flowing eastward along its base, enters the Caspian by several mouths.

(40.) *Rivers flowing into the Arctic and Atlantic Oceans.*—The Petchora, 900 miles, which rises in the Ural Mountains, is the only considerable European river which flows directly into the Arctic Ocean.

The Atlantic receives from Norway the Glommen, 400 miles, which flows into the channel called the Skager-rack, and from Sweden the Göta, which flows into the Kattegat, and brings down the waters of Lake Wener and its numerous affluents: both of these have their sources in the Scandinavian Mountains. The Glommen rises at an elevation of 3627 feet, owing to which its stream is exceedingly rapid, especially at the melting of the snows, when it sometimes occasions considerable devastation: its navigation is obstructed by numerous falls. The Göta is navigable from its mouth to a short distance below Lake Wener, where considerable falls occur.

The Elbe, 690 miles, rises amongst the Mountains of Germany at a height of 4260 feet, and falls into the North Sea, forming a considerable estuary at its mouth: its chief tributary is the Moldau, which joins it on its left bank. The Weser, 380 miles, is formed by the union of the Werra and the Fulda, which also rise among the Mountains of Germany.

The Rhine rises in the higher portion of the Alps at an elevation of 6580 feet, and flows in the upper portion of its course through the Lake of Constance, whence it proceeds westward to Bâle, where it forms a great bend, and afterwards flows in a general north-westerly direction till it enters the waters of the German Ocean, forming in its lower part an extensive delta. The Rhine has a length of 760 miles, and its basin is 70,000 square miles in area: at Bâle (where it is 765 feet above the sea) its breadth is 800 feet; at Mainz, about 1700; and at Cologne, 1400; it is navigable for boats as high up as the falls of Schaffhausen, a short distance below the Lake of Constance, and for vessels of some magnitude as high as Strasburg: small steam-boats ascend as high as Bâle. The stream of the Rhine is generally rapid, and in the upper part of its course

its fall is considerable. Of its numerous affluents, the principal are, the Neckar and the Mayn on the right bank, and the Aar and the Moselle on the left.

The Meuse, 550 miles, rises in the Plateau of Langres, and, flowing through Belgium and Holland, enters the German Ocean by several broad and deep channels, some of which unite with the Rhine near the mouth of that river, and, indeed, carry off the greater part of its waters. The Scheldt, 250 miles, which rises in the north of France, though of short course, becomes in its lower part a large and wide river, which enters the sea by several channels, and is navigable for large ships up to Antwerp, and for small vessels considerably further inland.

The Seine, 430 miles, rises in the Plateau of Langres, and flows into the English Channel, forming a considerable estuary at its mouth. The Loire, 570 miles, rises in the chain of the Cevennes, and, flowing through the centre of France, enters the Bay of Biscay. The Garonne, 350 miles, draws its waters from the northern face of the Pyrenees, and falls into the Bay of Biscay, forming in its lower course a broad estuary called the Gironde.

The Minho, 200 miles, flows from the Cantabrian Mountains in the north-west of Spain, and enters the Atlantic Ocean. The Douro, 460 miles; the Tagus, 510 miles; and the Guadiana, 450 miles, all have their sources on the eastern side of the Spanish table-land, which they cross in a westerly direction to the Atlantic, their basins being separated from one another by the mountain chains already described (Art. 27.): they are all navigable in the lower parts of their courses. The Guadalquivir, 290 miles, flows from the south side of the table-land, and waters the plain which extends between it and the Sierra Nevada: it is navigable for large vessels up to Seville, though partially obstructed by shallows.

(41.) It has been estimated that, if we suppose all the waters discharged by the rivers of Europe to be represented by unity, the Baltic receives a proportion equal to $\cdot 129$; the Mediterranean, $\cdot 144$; the Black Sea (including the Sea of Azov), $\cdot 273$; the Caspian, $\cdot 165$; the Atlantic Ocean, $\cdot 241$; and the Arctic Ocean (including the White Sea), $\cdot 048$.

(42.) *Lakes.*—The principal European lakes occur in two distinct regions, one of which consists of the countries that lie around the Baltic, and are situated within the area of its basin; the other, of the plains and valleys among the Alpine system of mountains. The lakes situated in the former of these regions possess greater magnitude, while the latter are distinguished by their great elevation above the sea, and by the grandeur of the scenery among which they lie.

In the following Tables the dimensions of the principal lakes are stated, together with their elevation and greatest depth, where these particulars have been ascertained.

Lakes situated round the Baltic.

		Area in square miles.	Height.	Depth.
<i>In Russia :</i>	Ladoga - - - - -	6330		
	Onega - - - - -	3280		
	Ilmen - - - - -	390		
	Peipous or Tchoud- skoé - - - - - }	1250		
	Pskov - - - - -	280		
	Bieloe - - - - -	420		
	Saima - - - - -	2000		
	Enara* - - - - -	1200		
<i>In Sweden :</i>	Wener - - - - -	2136	144	288
	Wetter - - - - -	840	288	432
	Maëlar - - - - -	760	3	
<i>In Norway :</i>	Miosen - - - - -	300	420	

Lakes belonging to the Alpine system.

		Area in square miles.	Height.	Depth.
<i>In Switzerland :</i>	Geneva - - - - -	240	1230	1012
	Neufchatel - - - - -	115	1437	426
	Lucerne - - - - -	99	1430	600
	Zurich - - - - -	76	1332	600
	Constance, or Boden See - - - - - }	228	1299	2334
<i>In Hungary :</i>	Neusiedler See - - -	150	350	13
	Balaton, or Platten See - - - - - }	250	918	36
<i>In Italy .</i>	Lago Maggiore - - -	152	678	2625
	Como - - - - -	66	684	1698
	Garda - - - - -	183	320	951

(43.) Besides those above mentioned, there are numerous others of smaller magnitude, including which, it is calculated that the whole of the lakes situated around the Baltic occupy

* The waters of Lake Enara, however, communicate with the Arctic Ocean, not with the Baltic.

together an area of 36,000 square miles, and those belonging to the Alpine system 2300 square miles.

Lakes are more numerous on the north than on the south side of the Alps, and the former lie generally at a higher elevation than those situated to the south of the mountains. All the lakes above enumerated have fresh water, excepting the Neusiedler See and the Lake of Balaton, both of little depth, and neither of which have any outlet. The water of Lake Balaton is slightly salt, and that of the Neusiedler See extremely so, containing sulphate, muriate, and carbonate of soda: both of them, however, abound with fish. But the saltiest body of water in Europe (and probably in the whole world) is the Lake of Ielton, on the steppe to the east of the Volga, which has an area of 130 square miles, and furnishes two-thirds of the salt consumed in Russia: its water contains 29·13 per cent. of saline matter, and from this circumstance is more buoyant than any other that is known.

SECTION IV. — ISLANDS OF EUROPE.

(44.) *In the Arctic Ocean.*—Nova Zembla, an archipelago consisting of three large and several smaller islands, and which extends in length upwards of 500 miles, with an average breadth of about 60 miles; its western side is traversed by a range of mountains, which rise in general to about 2000 feet in height; the eastern side is low and barren. Vaygatz Island is divided from Nova Zembla by the Strait of Kara, and from the mainland of Europe by the Iogorskoï Strait. Kolgouev Island, off the north coast of Russia, is covered with marshes, moss, and brushwood. Several small islands occur in the White Sea.

The group of the Lofoden Islands, and numerous others lying off the north-west coast of Norway, form in reality a part of the Scandinavian mountain system, divided from the mainland by arms of the sea: they have a rugged and dismal appearance, resembling piles of rocky mountains, covered with snow, and rising abruptly to a height varying from 100 to 4000 feet.

Jan Mayen Island, to the north-east of Iceland, contains an active volcano, 6870 feet in height; it is a lofty snow-capped cone, flanked by enormous glaciers.

(45.) *In the Atlantic Ocean.*—Iceland, which lies immediately to the south of the arctic circle, is 320 miles in

length (from east to west), and exceeds 40,000 square miles in area. Its coasts are traversed in every direction by ranges of high and rugged mountains, which terminate in steep promontories: on the north and west it is deeply indented by fiords, adjacent to which (especially in the west) are some fertile valleys; but the interior is, in general, a dreary desert, consisting either of snow-clad mountains (called Yokuls), or of vast fields of lava, scorix, and volcanic sand. The whole is of volcanic formation, and many of the volcanos are in frequent activity: there are also boiling springs, called geysers, which throw up water and steam to a great height, and sometimes eject even stones and large masses of rock. The highest measured mountain is the Oræfa Yokul, near the south-east coast, which reaches to 6409 feet above the sea. The Snæfell Yokul, on the west coast, is 5965 feet; and Hekla, a volcano in frequent eruption, is 5095 feet high. Iceland contains several considerable lakes and numerous rivers, which however are too much obstructed by rocks and shallows to admit of navigation.

The Farøe Islands, twenty-two in number, are generally high, and rise almost perpendicularly out of the sea; the highest point (on the Island of Stromsoe, the largest of the group) is 2240 feet.

The British Islands form an extensive archipelago, which consists of the two large islands of Great Britain and Ireland, besides numerous smaller groups and islands, of which the principal are the Shetland Islands, the Orkney Islands, the Hebrides, the Isle of Man, the Isle of Anglesey, the Scilly Islands, and the Isle of Wight. Great Britain and Ireland are the largest of the European islands; the former is 83,825 square miles, and the latter 32,513, in area. Of the island of Great Britain, the northern and western parts (which embrace Scotland and Wales) are mountainous; and the central, eastern, and southern parts (which belong to England) are generally level. The Grampian Mountains, in Scotland, attain a height of 4406 feet; Skaw Fell, the highest summit in England, is 3229 feet; and Snowdon, in Wales, 3590 feet. Ireland is mountainous round its coasts, but level in the interior; its highest elevation is in the mountains of Kerry (in the south-west), which reach 3404 feet.

Both Great Britain and Ireland are watered by numerous rivers, most of which are navigable for a considerable distance inland; of these the principal are, in England,

the Thames and the Severn ; in Scotland, the Tay, the Tweed, and the Clyde ; in Ireland, the Shannon.

The Dutch Archipelago consists of Walcheren and several other islands situated at the mouths of the Scheldt and Meuse, together with a long chain which extends in front of the entrance to the Zuyder Zee, and thence eastward to the mouth of the Weser : these islands are low and flat, and generally fertile. The small island of Heligoland, situated off the mouth of the Elbe, consists partly of a high cliff, 170 feet above the sea, and partly of a low, sandy down.

The Channel Islands (so called from their situation in the English Channel) consist of Jersey, Guernsey, Alderney, Sark, and some smaller islets : Jersey, which is 62 square miles in area, is mostly hilly, and well watered ; Guernsey is level in the north, but hilly in its southern part, and is also well watered, though less generally fertile than Jersey.

The small islands of Ouessant or Ushant, Belle Isle, Ré, and Oléron, are situated in the Bay of Biscay, off the west coast of France. Both Ushant and Belle Isle are steep and rocky ; Ré is a low island, with good harbours ; Oléron is surrounded by banks, and is of difficult access.

The Azores, situated nearly nine hundred miles to the westward of Portugal, are a group of volcanic formation, consisting of nine islands, the total area of which is about seven hundred square miles ; the largest, St. Michael, has an area of 224 square miles. They are all elevated, and rise into peaks, of which the highest — that of Pico — is 7613 feet above the sea. Their surface is irregular, and in great measure covered by lava and other ejected volcanic matter ; the soil is everywhere very fertile.

(46.) *In the Baltic Sea.*— The Danish Archipelago, which lies at the entrance of the Baltic, consists of the islands of Zealand, Funen, Alsen, Langeland, Aaland, Falster, Moen, Femern, and numerous others : they are level, and in many parts covered with forests, and are generally fertile. Zealand has an area of about 2600 square miles.

Rugen, off the coast of Prussia, is a large island, 30 miles long and 20 in its greatest breadth ; it is generally low, and very fertile. Bornholm, further to the east, is high, and has its shores formed of steep and lofty rocks ; it is moderately fertile. Oland, a long narrow island off the coast of Sweden, contains well-watered valleys, rich in pasturage and meadow ground. Gothland, 80 miles long and 30 broad,

is on its west side 150 feet above the level of the sea, and slopes gradually eastward ; it is well watered and fertile.

The Aland Islands, at the entrance of the Gulf of Bothnia, are a numerous group of rocky islands. Oesel and Dago, situated between the Gulfs of Finland and Riga, are diversified in surface and generally fertile, except the western portion of Dago, which is sandy.

(47.) *In the Mediterranean Sea.*—The Balearic Islands, to the eastward of Spain, consist of Majorca, Minorca, Iviça, Formentera, and some others of less magnitude. Majorca has an area of 1360 square miles, and in its northern part rises into hills of considerable elevation. Minorca is 240 square miles in area, and is generally level, excepting towards the centre. All of these islands are fertile, and yield abundance of corn and fruit. In Iviça a great quantity of salt is manufactured from the lagunes around its shores.

Corsica extends 116 miles in length from north to south, and has an area of about 3700 square miles ; it is generally hilly (except on its eastern shores), and is traversed in the interior by a range of mountains, the highest point of which, Monte Rotondo, is 9069 feet above the sea. Corsica is well watered and exceedingly fertile ; but its agriculture is in a very backward state, and a large portion of its surface is covered with forests.

Sardinia, the second island of the Mediterranean in point of size, is 160 miles in its greatest length, and has an area of 9300 square miles : its interior is occupied by two chains of mountains, with an elevated valley between them ; the eastern chain is the higher, and attains in its greatest elevation, Monte Schiuschiu, about 6000 feet. On some parts of the west coasts are low marshy tracts, but the island is in general exceedingly fertile ; about one-third of its surface is occupied by forests.

The island of Elba, lying between Corsica and Italy, is of irregular shape ; it measures sixteen miles from south to west, and has an area of 150 square miles ; it is mostly covered with hills, and rises to 2624 feet in height : on the north side are marshes, from which salt is manufactured. Elba is only of moderate fertility, and is chiefly important from its iron mines. Adjacent to Elba, on the north and south, are several small islands, mostly hilly ; and further southward, near the Bay of Naples, is the island of Ischia, with others of smaller

size. Ischia, $5\frac{1}{2}$ miles in length, is of volcanic formation, and rises to the height of 2503 feet.

The Lipari Islands, a small group to the northward of Sicily, are all high and of volcanic formation ; two of them — Stromboli, the most northern, and Volcano, the most southern — are constantly burning, and emit sulphureous vapours.

Sicily is 190 miles in its greatest length, and about 106 in its greatest breadth ; its superficial area is 10,500 square miles. A range of mountains extends through its length in a direction parallel to the north coast, and throws off branches which cover great part of the interior ; their elevation is generally moderate, the highest being about 6500 feet. But near its eastern shores the gigantic volcanic cone of Mount Etna (or Monte Gibello) rises to a height of 10,874 feet, from a base of more than 80 miles in circumference, all the lower portion of which is covered with dense and beautiful vegetation. The eruptions of Etna are frequent ; and there are numerous smaller cones or openings in the upper parts of the mountain besides the principal crater, which is more than two miles in circumference. Sicily is watered by numerous streams, and is throughout exceedingly fertile.

To the south of Sicily are the small islands of Malta and Gozo, with the little islet of Cumino between them, which have together an area of 122 square miles. Malta is naturally a barren rock, with an uneven surface, the highest portion of which is about 600 feet above the sea : Gozo is more elevated than Malta, and its surface less irregular ; it is entirely surrounded with high perpendicular rocks.

On the east side of the Adriatic Sea are the numerous islands of the Dalmatian Archipelago ; they are mostly long and narrow, and in general mountainous.

The Ionian Islands, situated to the west and south of the Grecian peninsula, consist of Corfu, Paxo, Santa Maura, Ithaca, Cephalonia, Zante, and Cerigo, with numerous islets of smaller size ; they have a total area of 1097 square miles, — Cephalonia, the largest, being 348, and Corfu 227, square miles in magnitude. They are all mountainous, the highest peaks rising to from 3000 to 5000 feet above the level of the sea, and have generally rugged and irregular coasts ; they are mostly well watered, and in many parts exceedingly fertile.

Of the islands of the Grecian Archipelago, the largest is

Negropont or Eubœa, which is separated from the mainland by the long and narrow channel of Euripus, only 100 feet across in its narrowest part. The smaller islands, to the eastward, are all mountainous; amongst them, the island of Santorin consists almost entirely of volcanic matter, and has given frequent evidence of its hidden fires within modern times.

Candia, to the south of the Archipelago, is 170 miles in length, and has an area of 3200 square miles: it is almost entirely covered with lofty and rugged mountains, which increase in elevation towards the west, where their peaks are covered with snow in June; the highest summit, Psiloritti (the ancient Mount Ida), is 7801 feet above the sea. Candia is watered by numerous streams, and the valleys are exceedingly fertile.

SECTION V. — CLIMATE.

(48.) *Climate.* — A small portion of the north of Europe lies beyond the arctic circle, but by far the greater part of this division of the globe is situated within the temperate zone, and is accordingly exempt from those excessive extremes either of heat or cold by which countries adjacent to the equator, or in immediate proximity to the polar regions, are affected. But, so far as temperature is concerned, the climate of different portions of Europe is materially modified by their peculiar conditions of geographical position and formation, in accordance with those general laws by which climate is everywhere regulated.

There are three principal circumstances by which European climates are influenced; 1st, the presence of the Atlantic and Arctic Oceans on its western and northern frontiers, by which the extremes of heat and cold are moderated, and the temperature rendered more equal, while at the same time the large amount of moisture collected in the atmosphere renders variations in the weather frequent in the countries more immediately exposed to this influence; 2ndly, the immense level region of eastern Europe, — not protected by any range of mountains from the cold winds of the north, and only divided by the comparatively slight elevations of the Ural chain from the vast frozen plains of northern Asia, — the tendency of which is to increase the extremes of temperature in this portion of the continent; and 3rdly, the existence, in the south, of the extensive basin of the Mediterranean Sea,

which, sheltered on its northern side by a succession of high mountain ranges, and deriving a constant supply of warmth from the intensely heated region of the Great African Desert, communicates a corresponding degree of warmth (tempered, however, by the equalising influence of a large body of water) to the countries adjacent to its shores.

(49.) The most important and striking result from these circumstances is the constant diminution of mean annual temperature in proceeding from west to east under similar parallels; and this augmentation of cold in advancing eastward is accompanied by an increase in the extremes of temperature at the opposite seasons of the year. Thus, if we examine the respective climates of Edinburgh, Copenhagen, and Moscow (places under nearly the same parallel), we find the following result:

	Mean annual temperature.	Mean temperature of summer.	Mean temperature of winter.
Edinburgh - - -	47·13	57·17	38·45
Copenhagen - - -	46·56	62· 7	31· 3
Moscow - - - -	40	63· 9	15· 2

Similarly, comparing the climates of Christiania and Petersburg, both lying nearly under the 60th parallel, we find that Christiania, the more westerly, has a mean temperature throughout the year of 41·45, and Petersburg of 39·61, while the mean summer and winter temperatures are in the case of the former 59·8 and 23·18, and in that of the latter 61·68 and 18·6. In a more southern latitude, we find, in further illustration of the same fact, that while at Geneva (though situated at an elevation of more than 1200 feet above the sea) the mean temperature of the year is 52·7, and the mean of winter 34, and of summer 70·3; at Odessa (25° further to the eastward) the navigation of the Black Sea is annually interrupted by the frost for a period of six or eight weeks, while the heat of summer is intense; and at Astrakhan (still further eastward under the same parallel) the heats of summer are excessive, and the cold of winter correspondingly severe, the ice at the mouths of the Volga not breaking up until the month of April.

The British Islands, surrounded by the Atlantic Ocean, experience in the highest degree the ameliorating influence of

its waters upon the temperature of Western Europe, and have a climate in which the extremes of heat and cold are confined within a narrow range, though (from the same circumstance) variations in the condition of the atmosphere are frequent.

(50.) Bearing in mind the modifying influence of the circumstances above noticed, we may divide Europe into four zones or regions, which may be distinguished as the southern, the middle, the northerly, and the arctic zones. In the southern zone, which embraces that portion of Europe lying to the south of the 45th parallel, the mean temperature of the year is generally between 55° and 60° ; the winter is short and confined to the rainy season, which usually extends from about October or November to January or February; snow rarely falls in the lower grounds, and vegetation is scarcely impeded by the slight frosts which occur, while the heat of summer, especially during the prevalence of hot southerly winds, is very great, the thermometer sometimes reaching as high as 107° .

The middle or temperate zone, which lies between the 45th and 55th parallels, has in general a mean annual temperature of from 46° to 50° ; the season of winter extends from November to March or April, increasing greatly in severity towards the east, while the months between June and September constitute the summer, the extreme heat of which sometimes reaches 90° .

In the northerly zone, between the 55th parallel and the arctic circle, the mean temperature of the year is from 35° to 40° ; the heat of summer is for a short time considerable, while the winter increases in severity and length: snow covers the surface of the ground, and ice that of the rivers, for upwards of six months annually. The autumn is generally foggy, and in winter the mercury often freezes. At Stockholm, which from its low and insular situation enjoys a comparatively mild climate, the thermometer often sinks in winter to 28° below zero; and round Tornea, at the head of the Gulf of Bothnia, the climate is so rigorous, that the lakes sometimes continue frozen all the year. At Petersburg (lat. 60°) the duration of winter is from the end of September to the beginning of May; snow and ice set in early in October, and continue until May, when they disappear all at once, and a sudden change ensues: on an average, 230 days of the year are reckoned to belong to winter, and during 160 of these the waters are fast bound with ice.

In the arctic zone, beyond the polar circle, the climate is still more rigorous in winter, and the heat of the short summer more excessive, — the year in those regions consisting, in fact, of little more than one long winter night and one long summer day. In the summer, however, the sky is often overcast with vapours, which obscure the sun and moderate its excessive heat, while the darkness of the long night is relieved by the clear moonlight and the brilliant coruscations of the aurora.

(51.) The observed mean annual temperature, and also the mean temperature of the different seasons of the year, at some of the principal cities of Europe, is as follows : —

	Winter.	Spring.	Summer.	Autumn.	Year.
Lisbon (lat. $38^{\circ} 42'$) -	52.5	59.6	71	62.5	61.4
Naples (lat. $40^{\circ} 52'$) -	47.6	57.5	74.4	61.5	60.2
Rome (lat. $41^{\circ} 53'$) -	46.7	58.2	74.2	62.7	60.5
Genoa (lat. $44^{\circ} 24'$) -	47.3	58.8	75	63	61
Milan (lat. $45^{\circ} 28'$) -	36.3	56	73	56.8	55.7
Vienna (lat. $48^{\circ} 13'$) -	32	51.6	69.4	51.1	51
Paris (lat. $48^{\circ} 50'$) -	37.8	50.6	64.6	52.2	51.3
Brussels (lat. $50^{\circ} 50'$)	38	49	64	51.6	50.6
London (lat. $51^{\circ} 30'$)	39.5	49	63	51.8	50.8
Berlin (lat. $52^{\circ} 30'$) -	31.4	47.4	64.5	49.2	48.1
Dantzic (lat. $54^{\circ} 20'$)	30	43.5	62	47	45.6
Copenhagen (lat. $55^{\circ} 41'$)	31.3	43.5	62.7	48.7	46.5
Moscow (lat. $55^{\circ} 45'$)	15.2	41	63.9	39.9	40
Kazan (lat. $55^{\circ} 48'$) -	6.3	36.2	62.4	37	35.4
Edinburgh (lat. $55^{\circ} 57'$)	38.4	45	57.1	47.8	47.1
Stockholm (lat. $59^{\circ} 21'$)	26	38.2	60.4	44.4	42.2
Christiania (lat. $59^{\circ} 55'$)	23.1	40	59.8	42.6	41.4
Petersburg (lat. $59^{\circ} 58'$)	18.6	37	61.6	41	39.6

(52.) In regard to moisture, Europe is subject to greater variations than any other of the continental divisions of the globe. The average *quantity* of rain which falls annually is greatest in the west and south of Europe, and decreases in general as we advance northward ; while the average *number of days* upon which rain falls is greatest in the west, and decreases in proceeding eastward. In general, more rain falls annually in the countries situated to the *south* of the Alpine barrier of mountains, than in those lying to the *north* of their elevated masses ; while at the same time the number

of rainy days is greater in the latter. With regard to the periods of the year at which the most considerable quantity of moisture is precipitated, the extreme south of Europe may be designated the province of the winter rains, the Alpine countries and those along the west and north-west coasts constitute the province of the autumn rains, and the central and eastern parts belong to the province of the summer rains.

The greatest annual quantity of rain known to fall in Europe is said to occur in the neighbourhood of Coimbra, in the valley of the Mondego, in Portugal. Norway, owing to its craggy formation, and to the long chain of the Scandinavian Mountains, which arrest the progress of the clouds driven over the Atlantic Ocean, is remarkable for the abundance of its rains. In the high valleys of the Alps, and also in many parts of the hilly districts on the western shores of the British Islands, the quantity of rain is also very great. The amount of rain which falls annually at Naples is 37·4 inches, at Rome 36·3 inches, at Genoa 55 inches, at Pisa 45 inches, at Milan 37 inches, and in the countries south of the Alps it is generally about 35 inches. At Geneva (owing to its great elevation and its proximity to a high mountain region) the quantity is 51·2 inches, at Lyons 33 inches, at Paris 21·26 inches, on the west coasts of France and Holland about 26·7 inches, at London 25 inches, on the east coasts of England in general about 25·5 inches, on the west shores of England about 37·5 inches, in the central parts of Germany about 21·25 inches, at Buda 18 inches, and at Petersburg 17 inches.

The average number of days in the year on which rain falls is greater in Ireland, where it amounts to 208, than in any other country of Europe; and Holland, which has 170 rainy days in the year, ranks second in this respect. In the countries round the Mediterranean Sea, the number of rainy days is very small; at Gibraltar only 68, in the south of France 76, and in Lombardy 96. The coasts of England and France, the north parts of Germany, and the north of Finland, have about 152 days of rain during the year; the interior of France 147, the plateau of Central Germany 141, Poland 158, Petersburg and the plains of the Volga 90.

(53.) The winds which prevail in different parts of Europe vary in their character and influence with the peculiar circumstances of local situation and feature; but it may be

observed as a general fact, that westerly winds, which have blown across the expanse of the Atlantic Ocean, are usually warm, and at the same time accompanied by moisture, — while easterly and north-easterly winds, proceeding over immense inland tracts which stretch to a high northern latitude, are for the most part cold and dry.

In the south of Europe, the chief drawback to the generally delightful character of the climate consists in the hot winds which occasionally blow from the south and south-east, and bring with them the intensely heated atmosphere of the desert region of Northern Africa. In Italy and Sicily this species of wind is called the *sirocco*, under the noxious influence of which vegetation droops and withers, and the human frame is afflicted with languor and dejection. The hot wind which occurs in the south of Spain is called the *solano*. In the south of France, on the other hand, the *mistral* — a dry and piercingly cold wind which occasionally blows from the northward, sweeping down the valley of the Rhone — produces effects of an opposite kind, but which are equally dreaded by those exposed to its influences. In the south of Russia, a cold north-easterly wind sometimes prevails, called the *mitel*, which is often accompanied by snow, drifted with great violence, and is much dreaded.

Finally, it may be observed that the climate of Europe is, on the whole, eminently salubrious, and more conducive to health and longevity than that of any other of the continental divisions of the globe.

SECTION VI. — NATURAL PRODUCTIONS.

(54.) *Metals and Minerals.** — These may be best noticed in the order of the natural divisions which have been used in describing the general surface of this continent.

The Balkan system of mountains has only been partially examined in regard to its mineral productions, which appear, however, to be very various. *Iron, copper, lead, and silver*, all occur in different parts of the provinces that lie along either side of the mountain-chain, and are worked in some localities to a limited extent. Most of the principal metals are known to exist in small quantities in various parts of Greece, though very few of them are now worked; iron is abundant in Eubœa and some others of the islands, and coal occurs both in Eubœa and in parts of the Morea. The island of Paros, in the Archipelago, is celebrated for its quarries of white marble. Salt is obtained at various places round the shores of the Grecian peninsula and the Ionian Islands.

(55.) The central and higher ranges of the Alps are generally deficient in metals; but in the eastern portions of the mountain system, which spread over Styria, Illyria, and the adjacent provinces, various mineral

* In speaking of the natural productions of Europe, we confine ourselves to such as, from their useful qualities or the abundance in which they occur, exercise an important influence upon the industrial pursuits and commercial relations of mankind.

productions occur, amongst which *lead* and *quicksilver* are the most important. Small quantities of gold and silver are also found in Illyria and Styria, and gold occurs in Piedmont, but neither of these is now worked. Both *copper* and *iron* are worked in the high valleys in the north of Lombardy, and also to a small extent in Tuscany: but the most abundant produce of iron is in the island of Elba, the mines of which have been wrought for more than three thousand years. A small quantity of coal occurs in Styria and in a few other places, but no part of Italy has coal-mines of any importance. In southern Italy and Sicily, beds of *sulphur* occur in great abundance, and Sicily furnishes the chief supply of that article to the rest of Europe. There are extensive deposits of *rock salt* on the northern face of the Alps, in Upper Austria, Tyrol, and Styria; and salt is also produced both from mines and from brine-springs, as well as from marshes on the coast, in various parts of the Italian peninsula.

The chain of the Apennines, which consists chiefly of limestone, furnishes abundance of good building stone, and also marble of excellent quality, among which that of Carrara, in the north-west of Italy (lat. $44^{\circ} 5'$, long. $10^{\circ} 7'$) is distinguished, and is much used for the purposes of the sculptor. Granite occurs in Calabria, at the southern extremity of the chain; and the higher ridges of the Alps are chiefly composed of granite, gneiss, and other granitic rocks.

(56.) The countries that include the Carpathians and the various mountain-chains of Germany are richer in mineral produce than those which lie further south. In the north of Hungary, especially, and in the central parts of Germany, the metallic productions are very various and abundant, and numerous mines are worked. *Gold* is obtained in small quantities, by washing the soil, in Bohemia, Silesia, the north of Hungary, and Transylvania; and *silver* is wrought in the Harz Mountains of Hanover, the range of the Erz-gebirge in Saxony, and also in Hungary and Transylvania. The district called the Banat, in the south of Hungary, has mines of copper, lead, tin, and zinc. *Tin* is found in Bohemia; *quicksilver* (in small quantities) in Hungary, Salzburg, and Bohemia; *copper* and *lead* in Saxony and Silesia. *Iron* is worked in most parts of Germany — (in Westphalia, the Harz Mountains, Bohemia, Saxony, and Silesia) — as well as in Hungary and Transylvania.

Besides the metals above named, calamine, bismuth, cobalt, nickel, titanium, sulphur, arsenic, and many other mineral substances (all of which are applied to various useful purposes in the processes of manufacturing industry), occur in great abundance in the mountainous districts of Germany, especially in the chain of the Erz-gebirge, on the borders of Saxony and Bohemia, and in the Harz Mountains in Hanover. Precious stones are also found in many parts of Germany, as the amethyst, topaz, and rock-crystal, in Bavaria; chalcedony, agate, jasper, and others, in Bohemia. *Coal* occurs in the western provinces of Prussia, in Hanover, Saxony, Silesia, Bohemia, Moravia, and Hungary, but it is not generally worked to any considerable extent; charcoal is more frequently employed for the purpose of smelting the iron and other metals.

Salt occurs abundantly as a mineral deposit, and is also obtained from brine-springs, in many parts of Germany, and likewise in Hungary and Transylvania; but the richest deposits of this mineral in continental Europe are situated in the Austrian province of Galicia, a short distance

to the south-east of Cracow. Mineral springs, of every variety, are abundant in all the mountainous districts of Germany.

(57.) In the mountainous portions of France, and also in other parts of that country, *iron* is the most abundant mineral product. It occurs in great quantity in most parts of France, both along the chains of the Cevennes, the Vosges, and the Jura, and also in the basins of the Garonne and the Loire, and in the peninsula which extends to the north-westward between the Bay of Biscay and the English Channel. In the quantity of iron produced, France ranks second only to England. *Coal* is also extensively distributed in that country, and as many as forty-six coal-fields are enumerated; many of them, however, are very small, and their produce inconsiderable. The entire produce of the coal-mines of France is less than one-seventh of that of the British Islands.

Silver, lead, antimony, and copper, are worked to a small extent along the chain of the Vosges, and in some other parts of the kingdom; but the produce is small, and of little importance. *Salt* is produced in various parts of France, chiefly in the department of Jura, near the south-western extremity of the mountain range of that name; and extensive deposits of this mineral occur along the western skirts of the chain of the Vosges: it is also obtained in great quantity by the evaporation of the sea-water on the south and south-west coasts. The districts around Paris, and the north-western provinces in general, furnish abundance of good building stone: that which is quarried in the neighbourhood of Caen, in Normandy, is highly valued, and is largely exported for use in other countries. A great number of mineral springs occur, especially in the mountainous districts of the south and east, adjacent to the Pyrenees, the Alps, and the Vosges.

(58.) The mountains of the Spanish peninsula contain nearly every variety of mineral produce, though few of the mines are worked to any great extent. The principal mines are situated in the south and south-east parts of the peninsula, along the range of the Sierra Morena, and in the provinces of Catalonia and Galicia, in the north and north-west. The most valuable products are *quicksilver* and *lead*, the latter of which is furnished by Spain in greater abundance than by any other country in Europe. *Silver* occurs to a limited extent. *Iron*, *copper*, *zinc*, and *manganese*, are found along the chain of the Pyrenees, and their prolongation, the Cantabrian Mountains. Iron ore is also abundant in many parts of Portugal. *Tin*, *copper*, *lead*, *antimony*, and *cobalt*, occur in Galicia, and tin has been worked in that province from a very early period.

Coal is found in several localities in the northern parts of the peninsula; but it is little worked, the forests supplying all the ordinary consumption of fuel. A large deposit of coal has recently been found in the island of Majorca. *Rock-salt* is abundant in many parts of Spain, and salt is obtained, by evaporation, at various places on the coasts both of Spain and Portugal.

(59.) Among the mountains of the Scandinavian peninsula, *iron* occurs in greater abundance than any other metal, both in Norway and Sweden. The Swedish iron (especially that of Danemora) is regarded as the best in the world for the manufacture of steel, owing to its superior ductile and malleable qualities, and it is largely imported into England for that purpose.

Next to iron, *copper* is the most valuable mineral production of this part of Europe. *Gold* and *silver* occur in small quantities both in Sweden and Norway. There are valuable mines of *cobalt* in the southern part of Norway, and also in some parts of Sweden. Both *plumbago* and *lead* also occur. *Coal* only occurs in the southern part of Sweden, near Helsingborg, on the east side of the channel of the Sound; but the immense forests which still cover the larger portion of the Scandinavian peninsula furnish an inexhaustible supply of fuel for every purpose of consumption. Valuable quarries of *granite*, *porphyry*, and *marble*, of various kinds, are wrought in different parts of Norway and Sweden; and the greater part of the mountains of this peninsula consists of *gneiss*, *mica slate*, and other primitive rocks.

(60.) The Ural Mountains are the richest, in mineral produce, of all the European mountain systems, and yield, in great abundance, *gold*, *platinum*, and *iron*. The great mineral wealth of the chain is contained in the part between the 54th and 60th parallels, and lies chiefly on its eastern or Asiatic side. The gold produce of the Ural has declined slightly of late years; but its amount is still equal to six-sevenths of the total quantity produced in Europe. With one exception, all the gold mines are situated on the east side of the range, and the gold is obtained by washing the detritus or alluvial matter accumulated in the valleys and on the slopes of the adjacent ridges.

Platinum, which was only discovered in the Ural Mountains so recently as 1822, is worked in great abundance, and manufactured into a variety of articles for use and ornament: it was for some time used for the purpose of coinage in the Russian empire, but the people were repugnant to its reception, and the coins of this metal have been called in.

In the same tract within which the gold and platinum chiefly occur, enormous quantities of the purest magnetic iron ore are extracted from the solid rock in open quarries, and in some parts of this district copper veins abound. Over a vast tract of country on the west side of the Ural, extending through 18° of latitude, from the Northern Ocean to the southern steppes, is a deposit of sand and marl, with limestone, gypsum, and sulphur, which contains also at intervals a prodigious amount of copper, not occurring in veins, but distributed in grains throughout the strata. Diamonds of small size have been found on the west side of the chain, in the neighbourhood of Bissersk. Coal is deficient in the Ural Mountains. Salt is distributed abundantly in the country along the west side of the chain, to the south of the 60th parallel, and along the course of the River Kama.

(61.) The chain of Mount Caucasus, in so far as it has been examined in this respect, appears to be generally deficient in mineral produce. No traces either of gems or of the precious metals have hitherto been discovered. Iron, copper, lead, sulphur, and saltpetre are found, the last in considerable abundance. Salt appears to be wholly wanting within the mountain region (though it occurs abundantly in the steppes to the northward of the chain), and the want of this necessary article of domestic use has been severely felt by the Circassians in the prolonged warfare which they have maintained with Russia. Indications of coal are said to have been observed on the southern face of the chain.

(62.) In the great plain of Europe, the most valuable mineral productions are *coal*, and *iron*, which occur in great abundance in Belgium

and the north of France, towards the western extremity of the level region. Iron is abundant in many parts of Russia, particularly near the western shores of Lake Onega, and in the southern parts of Finland ; which province also produces lead, sulphur, arsenic, nitre, and copper, in small quantities. There is also a central mining district which extends along the course of the River Oka, and which contains iron ore in some abundance, and also coal of good quality : but the iron works of Toula (lat. $54^{\circ} 11'$, long. $37^{\circ} 27'$), which was formerly the great seat of manufacture in this district, have of late declined in importance. Coal is generally deficient in the eastern or Russian portion of the great plain, excepting in the basin of the Donetz (the chief tributary of the river Don). Extensive beds of coal occur in the southern part of Poland.

Salt is abundantly produced in various parts of the great plain, both in the steppes of south-eastern Russia, from the salt lakes situated to the eastward of the Volga, and also in a long tract of country extending eastward from the island of Oesel, in the Baltic, through Livonia, towards the upper course of the same river.

Alum is extensively produced in Russia and Northern Germany. On the south shores of the Baltic, in Eastern Prussia, amber is cast up by the sea, into which it falls from the adjacent cliffs, and is also dug out of the cliffs themselves : in some places pits are sunk for it to a depth of more than 130 feet, and it is found in some of the sandy tracts of Poland and Lithuania.

(63.) The mineral riches of the British Islands are, in porportion to their extent, superior to those of any other country on the globe. The precious metals, gold and silver, are indeed wanting, or only occur in small and unimportant quantity ; but the absence of these is more than compensated by the great abundance of nearly all the more useful productions of the mineral kingdom, including iron, tin, copper, lead, zinc, coal, salt, and a variety of others of less importance. The southern half of Scotland, and the northern, central, and western parts of England (including Wales), are the chief localities of mining industry, and both iron ore and coal occur in various districts through the whole of this extensive tract of country. The present annual produce of coal in Great Britain exceeds 65,000,000 tons, and the quantity of iron made annually is upwards of 3,500,000 tons.

Both tin and copper are more abundantly produced in the southern half of Great Britain than in any other country in Europe, though their distribution is limited : tin occurs only in the southern extremity of England, in Cornwall and Devonshire ; lead is abundant in many parts of the south of Scotland, and also in the hilly regions of England and North Wales ; zinc is also extensively worked in the same districts. A small quantity of silver is extracted from the lead ore, in most places where the latter is found. Vast beds of rock-salt, and also brine-springs, occur in Cheshire, where they are extensively worked, and furnish a large surplus for exportation, besides that required for home consumption ; brine-springs also exist in other parts of England.

Besides the above, a great number of other productions of the mineral kingdom may be enumerated as occurring in Great Britain, among which are antimony, manganese, plumbago, alum, fullers' earth, arsenic, &c. The mine of plumbago, or graphite (commonly called blacklead), is situated in the high valley of Borrowdale, among the mountains of the

Cumbrian group, and has hitherto furnished a more extensive supply than any other in the world of this valuable and rare mineral. Limestone occurs abundantly in all the mineral districts both of England and Scotland.

Ireland is less rich in mineral produce, but iron ore is abundant in many parts of the island, and was formerly more extensively worked than at present. There are mines of copper and lead in several places, and both gold and silver have been obtained in small quantities from the mountains of Wicklow (near the east coast). Coal is found in Ireland in many places, but is of inferior quality to that of England and Scotland, and is very little worked.

The estimated value of the mineral produce of the United Kingdom (exclusive of clays and stones) in the single year 1857 was £25,961,000, of which amount iron-ore constituted about one-fifth (£5,265,000), and coal upwards of three-fifths (£16,348,000). The area of the coal-fields in the British Islands (upwards of 12,000 miles) is greater by nearly one-half than the united area of all the coal-fields of continental Europe, and their annual produce probably amounts to more than half the coal-produce of the entire globe!

(64.) The following Table exhibits a summary of the principal mineral productions of Europe, the countries being named in the order of the relative importance of their produce:

<i>Diamond</i>	Russia.
<i>Other precious stones</i> }	Russia, Bohemia, Hungary, Transylvania, Saxony.
<i>Gold</i>	Russia, Hungary, Transylvania.
<i>Silver</i>	Bohemia, Hungary, Transylvania, Saxony, Hanover, Turkey, Norway, Spain.
<i>Platinum</i>	Russia.
<i>Quicksilver</i> ...	Illyria, Spain, Bavaria.
<i>Iron</i>	British Islands, Belgium, France, Russia, Germany, Sweden and Norway, Italy, Spain.
<i>Copper</i>	British Islands, Russia, Hungary, Sweden and Norway, Turkey, Germany, Spain.
<i>Lead</i>	Spain, British Islands, Illyria, Hungary, Bohemia, Germany, France, Norway.
<i>Zinc</i>	Great Britain, Belgium, Germany.
<i>Tin</i>	England, Spain, Bohemia.
<i>Coal</i>	British Islands, Belgium, France, Germany, Russia, Sweden, Hungary.
<i>Salt</i>	Russia, Austrian Poland (Galicia), France, Spain, British Islands, Portugal, Germany, Italy, Sweden and Norway, Ionian Islands, Greece.

SECTION VII. — NATURAL PRODUCTIONS (*continued*).

(65.) *Vegetation.* — The vegetable productions of this division of the globe are characterised not so much by their richness or diversity, as by the fact of their including a large number of those plants which are in the highest degree useful to mankind, and which are most conducive

towards the development of industry and the attainment of a high state of civilisation. The cultivation of the greater number of the cereal plants (which serve most extensively for the food of man),—indeed, of all of them which are capable of flourishing within the temperate zone, — is successfully carried on in the greater part of Europe, and is limited only by the extreme cold of the higher portions of its mountain systems, and the similar severity of climate experienced in its more northern latitudes.

It has been estimated that about $\frac{1}{4}$ ths of the entire surface of Europe is adapted to the cultivation of wheat, about $\frac{1}{5}$ ths to the growth of rye, oats, and barley, and about $\frac{1}{10}$ ths to the successful culture of the vine. The northern limits to the cultivation of these and other plants are in great measure determined by the respective temperature experienced under different parallels, and those peculiar conditions of European climate which have been described (Art. 49) necessarily exercise an important influence upon its vegetation.

Since the western parts of Europe experience a higher average temperature than the eastern, so most of the productions of the vegetable kingdom are capable of cultivation to a greater distance northward, near the western shores of the continent, than further inland. A succession of zones of vegetation may thus be traced, which in some degree correspond with the climatic zones into which we have seen that Europe is divided. In relation, however, to annual plants (as distinguished from perennial) the result is different; for as these (among which the cereal or corn plants are included) come to perfection within the limits of a single season, the excessive summer heat experienced in the more eastern parts of Europe enables them to be cultivated further northward than would be possible in many countries which enjoy a higher average of *annual* temperature.

In the British Islands, wheat is successfully cultivated as far north as the parallel of 58° , in Norway to the parallel of 64° , and in the south of Finland and the adjacent portion of Russia to the parallel of 60° or 61° : oats reach to 65° ; barley and rye ascend on the west coasts of Norway nearly as high as the parallel of 70° , though further to the eastward they are confined within lower limits. Maize is grown to some extent in the southern parts of Europe, but does not extend beyond the parallel of 50° or 51° . Rice is confined to the Italian peninsula (chiefly in the valley of the Po), and to a few districts in Spain, Greece, and Southern Russia.

The vine does not come to perfection further north than the parallel of 52° or 53° , and its cultivation for the purpose of making wine is limited within the parallel of 48° in Western Europe, and within a lower latitude further eastward. On the south-eastern shores of the Spanish peninsula, and also in the south of Italy, Sicily, and Greece, the orange, lemon, citron, the castor-oil plant, — besides the date-palm, the sugar-cane, and many others which belong properly to tropical regions, — all flourish. Both hemp and flax are grown extensively in the central and eastern parts of Europe, and thrive as far north as the latitude of Archangel.

In the north-west of Europe, the beech-tree reaches as far north as the parallel of 60° , the oak, elm, and lime to 61° , the ash to 62° , the hazel to 64° , the spruce fir to 67° , the Scotch fir to 70° , and the dwarf birch to

71°, beyond which trees entirely cease, and the vegetation is confined to low flowering shrubs, saxifrages, mosses, and lichens. Similar gradations occur with the gradual increase of elevation in the mountain regions of Europe ; and the higher regions of the Alps and Pyrenees exhibit the same forms of vegetation (and, in some instances, identically the same species of plants) as those found within the limits of the polar circle. Thus, on the declivities of the Alps, wheat is cultivated with success to a height of 3800 or 4000 feet above the level of the sea (and even 1500 feet higher on the south side of the chain) ; rye, and also hemp, thrive at 4440 feet elevation, potatoes come to perfection at between 5600 and 5700 feet, barley ripens at 5900 feet ; the oak is found up to 4000 feet, the elm to 4300, the beech to 5000, the fir to 5300, the mountain-ash to 5600, the birch to 5700, and the Siberian pine and larch to from 6500 to 7000 feet. At 7400 feet, forest vegetation ceases, and the sides of the mountain are covered with bushes and the Alpine rose.

(66.) If we examine the *native* vegetation of Europe (or its *flora*, as it is properly termed), we find that the chief characteristic of its Arctic region is the predominance of perennial and cryptogamous* plants, and the limited number of species which the extreme northern portion embraces. But further south, as night begins to alternate at shorter intervals with day, the number of species is continually on the increase, and a beautiful variety of vivid colours adorns the high latitudes of Europe during their brief but ardent summer, consisting of potentillas, gentians, chickweeds, saxifrages, ranunculi, and many others. "Such is the power of the sun, and the consequent rapidity of vegetation, that these plants spring up, blossom, ripen their seed, and die, in six weeks."† In a lower latitude, woody plants follow these, as berry-bearing shrubs, the glaucous kalmia, the trailing azalea, and many others ; and these again are succeeded by large tracts covered with birch-trees, and with the various members of the pine and the fir tribe, immense forests of which, mixed with limes, poplars, willows, and alders, are spread over the mountains of the Scandinavian peninsula and the northern districts of Russia.

Social plants, such as heath, furze, broom, and the various grasses, abound both in the north of Europe and in the steppes of its south-eastern portion : in these latter tracts, the soil is thin, and not adapted for the support of plants which require to strike their roots deep into the earth ; but numerous flowering plants, as hyacinths and other bulbs, with mignonette, asparagus, liquorice, and wormwood, are abundant.

(67.) In the central zone of Europe, and, in general, in the countries situated to the north of the Alps, deciduous trees (or those which cast their leaves annually) form the most distinguishing feature of the vegetation. It is in these regions that the oak chiefly thrives and attains its fullest development, while the elm, beech, ash, larch, maple, lime, alder, and sycamore, all occur in their fullest growth, and form the prevalent

* Cryptogamous plants are those which bear no flowers, and the reproductive organs of which consequently differ from those of plants in general.

† Mrs. Somerville's 'Physical Geography,' vol. ii. p. 126.

features of the forest. Within the same limits the apple and pear, and the different varieties of the plum, also come to perfection. The undergrowth consists of wild apple, cherry, yew, holly, hawthorn, broom, furze, wild rose, honeysuckle, jasmine, clematis, and numerous others. Plants of the umbelliferous class, as the carrot, anise, the campanulas, lettuce, endive, artichoke, hemlock, dandelion, and thistle,—and also those of the cruciform tribe, as the wallflower, stock, turnip, cabbage, radish, mustard, cress, &c.,—are exceedingly abundant, and constitute a characteristic feature in the botany of the middle part of this continent.

(68.) To the south of the Alps and Pyrenees, in the countries which lie around the basin of the Mediterranean, evergreens take the place of the oak and other forest trees of Central Europe, and it is reckoned that a fourth part of the ligneous vegetation consists of plants which never wholly lose their leaves. The sides of the mountains are covered with the chestnut, the ilex, the cypress, the plane-tree, the flowering-ash, the cork-tree, laurel, the arbutus, the carob-tree, and various species of pine; below which the olive, the pomegranate, the fig, the almond, the myrtle, the oleander, and a great variety of aromatic and medicinal plants, abound. Among herbaceous plants, the most prevalent are the various pinks, stellaria, and arenias; together with the labiate tribe, as mint, thyme, rosemary, lavender, and many others, distinguished by their aromatic properties and their love of dry situations.

In these warmer regions of Southern Europe we find the native seat of many of the choicest plants and flowers which adorn our gardens, as the anemone, tulip, narcissus, gladiolus, iris, asphodel, amaryllis, carnation, &c. The numerous varieties of the rose, and many other flowering plants which have become naturalised in Western Europe, derive their origin from the valleys of Asia Minor and Syria, on the more eastern shores of the Mediterranean; the countries lying around the entire basin of which are characterised by considerable resemblance in the productions both of the vegetable and animal kingdoms of nature.

SECTION VIII. — NATURAL PRODUCTIONS. — ZOOLOGY.

(69.) *Mammalia*.—Europe is especially distinguished as the home of the domesticated quadrupeds, nearly all of which are either natives of this division of the globe, or, owing to their utility to man, have been naturalised from a very early period. The horse and the sheep may originally have come from the plains of interior Asia; but the ox, the goat, and the pig, in the central and southern parts of Europe, and the reindeer, further to the northward, are natives of this continent, and still exist in their wild condition in its remoter and less populous districts. All our varieties of oxen are supposed to be derived from the urus, or wild ox, an animal formerly common over the whole of Europe, though now only seen occasionally in the forests to the eastward of the Baltic, and in rapid progress of extinction. A few specimens of an allied species, which formerly existed in a wild state in our own country, are still preserved in the parks of some of the nobility.

The common wild-boar, which is still frequent in Central Europe, is the progenitor of our domestic pig; and one variety of sheep, the

mouflon, which is a native of Corsica and Sardinia, and was formerly common among the mountains of the Spanish peninsula, is believed by some naturalists to have been the original stock from which our present domestic sheep is derived, though others suppose it to have come originally from Asia, by way of Northern Africa.

The reindeer is common to this continent with the arctic regions of Asia and America: in the central parts of Europe its place is supplied by the roebuck and the varieties of red and fallow deer,—all of which, as well as the chamois and the ibex in the higher regions of the Alps and Pyrenees, are natives of this quarter of the globe. The common domestic cat is also a native European quadruped. The large white bear of the polar regions is found within the limits of the arctic circle, both in the Old and New Worlds: in Central Europe, both the brown and the black bear were formerly common, and the former is still not unfrequent in the wooded regions of the Alps and Pyrenees.

Some animals which were once numerous in various parts of Europe have been altogether extirpated by the advance of population and the habits of civilised life; thus the lion, which the ancients describe as existing among the wooded hills of Greece, is now (except as an object of curiosity) unknown to the people of this continent. The wolf, which is still common in the northern parts of Europe, and also in its mountainous districts, was once a native of our own country, though long since exterminated: the beaver was formerly common on the banks of the Welsh rivers, but is no longer found in our island, and is fast disappearing from the continent, though still seen on the banks of some of the larger rivers and in remote districts, especially in the valleys of the Scandinavian peninsula.

(70.) Of the quadrupeds above noticed, however, very few are *peculiar* to Europe, that is, confined to this division of the globe; the greater number are natives of Europe in common with the northern regions of Asia, and many are also found in similar latitudes in the New World. The temperate zone of Europe and Asia forms, zoologically considered, an uninterrupted region, in which not only the same orders, but also the same *species* of animals, are of frequent occurrence, though, for the most part, marked by varieties which result from local peculiarities of soil, food, and climate. The fur-bearing animals, especially, are similar in all the countries within the polar circle, and 27 species of them are common to Europe, Asia, and America.

The entire number of mammalia which exist in Europe is about 180*, of which 45 are also found in Western or Northern Asia, and 9 in Northern Africa, and only 58 are peculiar to this continent. Europe has, indeed, no one of the great orders of mammiferous animals which is peculiarly its own, and in regard to its entire zoology (or its *fauna*)—as in respect of its geographical features, when viewed on a large scale—is to be considered rather as an offset, or outlying portion, of the great eastern continent, than as a continent of itself. Among the quadrupeds most extensively distributed, besides those already mentioned, are,—the

* It must be understood that this refers solely to the number of *species*, and has nothing to do with the actual number of *individuals* of any particular member of the animal kingdom.

fox (of which many varieties occur, from the white fox of the arctic regions to the brown-coloured animals of Central and Southern Europe), several wild-cats, the polecat, both the common and the black squirrel, eight species of weasel, seven of mice, four of hares and rabbits, one of the family of hamsters, and several species of the bat tribe. The lynx, of which two or three species occur, is confined to the colder tracts, and is chiefly found in the higher mountain regions of the south: the otter is common, and also the hedgehog: the porcupine occurs in Southern Europe only.

On the rock of Gibraltar is one species of monkey, identical with that which belongs to the opposite shores of Northern Africa, whence it has doubtless been brought. In the north of Italy, a breed of camels has, for about two centuries past, been preserved in the neighbourhood of Pisa, where they are used as beasts of burden; but they have degenerated from the proper type of the species, owing to the want of their native soil and climate, which is that of the deserts of Asia and Africa. The camel, however, is successfully reared by the Tartar population of the Crimea and the adjacent steppes.

The common ass, which is a native of the warmer latitudes of Western Asia, is a degenerate animal in our climate, and his habits here bear little resemblance to those of the active and spirited creature which he is in his proper home: in the south of Europe he occurs in perfection, and is valued for the purpose of breeding mules. That universal companion of man, the dog, varieties of which abound in every country, is so distributed over the whole globe as to make it impossible to ascertain to what region he originally belonged.

(71.) In the animal as in the vegetable world, increasing elevation above the level of the sea produces effects similar to the advance from lower to higher latitudes. The common stag does not go above 7000 feet, and the fallow deer not more than 6000, above the level of the sea; they descend, however, to the plains, while the ibex and the chamois never come below a certain height (usually within the limits between the region of trees and the line of perpetual snow), and frequent regions where none but the hardest and most experienced mountaineers dare to follow them. The wild goat universally frequents mountainous tracts, and the bear and lynx ascend nearly to the level of perpetual snow.

(72.) *Birds.*—Europe is richer in number of species, in regard to the feathered tribe, than in any of the other divisions of the animal kingdom, and is only surpassed in this respect by tropical America. The entire number of species of birds known to naturalists is about 6000. of which 503 are natives of Europe: many of these are also distributed over Asia and Africa, and about 100 of them are found in the higher latitudes of North America.*

The northern parts of Europe are especially distinguished by the great number of aquatic birds, (which include both the *waders*, as storks, herons, snipes, plovers, and curlews, and the *swimmers*, or web-footed birds, as the goose, duck, swan, &c.) of which there are numerous

* Mrs. Somerville's 'Physical Geography,' vol. ii. p. 274. — 'Geography and Classification of Animals,' by W. Swainson. (Lardner's Cyclopædia.)

species, and also vast numbers of individual members of each. More than thirty species of the duck tribe alone are enumerated, many of them common to the arctic regions of either continent. Several species both of the stork and the crane belong to Europe, and chiefly frequent its western and southern regions, migrating to the opposite shores of the Mediterranean on the approach of winter. The pelican, the spoonbill, and one species of flamingo, are all met with on the coasts of Southern Europe.

Birds of prey are numerous dispersed over the land, especially in the higher mountain regions. Five species of vulture, and ten of eagles, are natives of Europe; several of the latter, however, are also found in America, and only two or three (of which one is confined to the island of Sardinia) are peculiar to Europe. The owl tribe is numerous in Europe, and extensively dispersed: thirteen different species occur, of which two are more particularly inhabitants of the Arctic regions; one of these is the great snowy owl, represented in Central Europe by the great-eared owl, which inhabits the forests of Germany and Hungary, and is also occasionally seen in England. The vulture is in Europe almost confined to the highest regions of the Alps and Pyrenees: the eagle has a much wider range, and frequents the nearly inaccessible cliffs and precipices of high northern latitudes. The golden eagle, which was formerly common in Scotland, is now nearly extirpated from our island, but is still common in the south of Europe. Various species of the falcon and hawk tribes occur in nearly every part of the continent.

Of the smaller birds, the numerous species of songsters (including the nightingale, the redbreast, the goldfinch, linnet, &c.) are especially characteristic of Europe, and many of them surpass in the richness and variety of their notes those of every other division of the globe. Gallinaceous birds (in which order our domestic fowls, as well as partridges, grouse, pheasants, &c. are included) are not numerous in regard to species, though abundantly so as individuals; they are mostly found in the central parts of the continent, excepting the various species of grouse, which are more numerous towards its northern latitudes. No part of Europe is richer in birds than the British Islands, both in regard to species and to the individual members of each: 277 of the entire number of species found in Europe are natives of our own country, and some few of them indeed are confined within our shores.

A very large proportion of the European birds are migratory in their habits; some of them coming from the shores of Norway and Sweden to pass the winter in the warmer latitudes of Britain; others again (as the swallow), which pass the summer with us, taking a southern course on the approach of a colder season; and many annually pass the limits of Europe to spend the winter in Asia or Northern Africa. On the other hand, many of those native to these warmer regions pass the summer in the cooler temperatures of Central and Western Europe.

(73.) *Reptiles*.—Fortunately for the inhabitants of this division of the globe, reptiles are not numerous in Europe, either as species or as individuals. The tropical regions are indeed the proper seat of these obnoxious members of the animal kingdom, and they become less numerous with the increase of distance from the torrid zone. Europe has consequently much fewer species of reptiles than either Asia, Africa, or America, and those which do occur are circumscribed in their limits of

distribution. The only venomous serpents in Europe are three species of viper, all of which are confined to its southern shores. The common viper (which, however, is innocuous) inhabits all the central parts of Europe, as well as our own island, and extends as far north as Sweden : it is not seen to the westward of the Seine, nor to the southward of the Alps. Another species, which frequents dry soils, is found in Styria, Greece, Sicily, and the eastern shores of the Adriatic ; and the aspic viper, which lives on rocky ground, inhabits France between the Seine and the Pyrenees, and also Switzerland, Italy, and Sicily. Of the families of innocuous serpents, nine or ten species are European, some of them being also common to Asia and Africa.

Lizards are very common in the south of Europe, though rarely seen in its more temperate latitudes : more than sixty-three species are European, of which seventeen inhabit Italy, and one lives on the Alps at an elevation of 4500 feet. In the south of Italy and Sicily the gecko, or house-lizard, abounds, and is constantly seen crawling on the walls of the houses. One species of chameleon occurs in Spain, and is also common to Northern Africa. There are a few European species of tortoise, found chiefly in the countries round the Mediterranean ; the largest, the common tortoise, is about a foot long. Fresh-water tortoises also occur in the south of Italy, and are very common in Greece.

(74.) *Fishes.* — Both the seas and rivers of Europe abound in fish, a great number of the species of which are among those most useful to man, and serve in no small degree for the supply of his domestic wants. There are, in all, 853 species of European fish known to the naturalist, of which 210 live in fresh water, 643 are marine, and 60 of these latter go up the rivers to spawn. The Mediterranean Sea is richest in variety of species : 444 of the marine fish are found in its waters, 216 around the shores of Britain, and 171 are peculiar to the Scandinavian seas (*i. e.* the Baltic and the seas adjacent to the shores of Norway). Among the inhabitants of the Mediterranean are several sharks, sword-fish, dolphins, anchovies, and six species of tunny,—the latter one of the largest of edible fish, and for the capture of which extensive fisheries are established on the shores of France, Sardinia, Sicily, and in the Adriatic. The anchovy (a fish of small size and delicate flavour) is peculiar to this sea, and employs a great number of men in its capture and preparation.

The Black Sea, though so directly in communication with the Mediterranean, has only twenty-seven species of fish which are common to both seas,—a fact which shows that the inhabitants of the water, as well as those of the land, are for the most part restricted within certain natural limits. The Black Sea forms, indeed, a district by itself, and has its own peculiar fish, some of which, however, are identical in species with those found in the Caspian. The fisheries along the shores of the Black Sea consist chiefly of the sturgeon (of which there are several varieties, the roe of one of which the Russians make into *caviare*, an article of great consumption in the east of Europe), the lamprey, mackarel, and a kind of herring : seals and porpoises are also numerous.

The fisheries in the Caspian Sea are, however, of greater value ; one species of seal is peculiar to this inland body of water, and is annually taken in immense numbers (from 60,000 to 100,000) for the sake of the skin and blubber : sturgeons are also abundantly taken, and used for

the manufacture of caviare. Porpoises, herrings, and many other kinds of fish, are numerous in the Caspian, several of them consisting of species which are found nowhere else, unless it be in the salt lake of Aral, further to the eastward.

(75.) The seas of Northern Europe, however, and especially those portions of them which surround our own islands, greatly surpass the Mediterranean in the quantity and quality of fish useful as the food of man, as the cod, turbot, mackarel, herring, pilchard, and many others. Most of these frequent shallow water, and the shores and banks of the North Sea teem with the greatest abundance of them. The Dogger Bank, midway between the coasts of England and Holland, is (next to the banks of Newfoundland) the seat of the most extensive cod-fishery; and the cod is also taken in considerable numbers all round the shores of Britain, particularly on the north and west coasts of Scotland. The herring is extensively diffused all round our shores: the mackarel is chiefly abundant on the southern coasts of England; and the pilchard in the western extremity of the English Channel, near the counties of Devon and Cornwall. All of these fish are gregarious, and alternately approach the shores in vast swarms as the season for spawning draws near, and afterwards retire during the winter into deeper water. The crab, lobster, oyster, shrimp, and prawn, are also abundant round the shores of Britain and on the south side of the English Channel, and, small as some of these are, their fishery is of considerable commercial importance. The lobster is likewise abundant on the western shores of Norway, in the narrow fiords of which country an immense variety of fish occur, including the cod, whiting, haddock, and many others.

In the Baltic Sea, seals are numerous and are captured for the sake of their oil and skins; whales are not abundant, though sometimes seen of enormous dimensions. But the most valuable fishery in the Baltic is that of the *stomming*, a small fish about the size of a sprat, but of more delicate flavour: it is cured and salted like the herring, and is extensively consumed all over Sweden, Finland, and Northern Russia.

The common seal frequents all the north-western and northern shores of Europe, from the coasts of Ireland and Scotland to the neighbourhood of Nova Zembla: the ocean seal is found only in the White Sea and on the shores of Nova Zembla. In the deeper ocean further to the north, the Greenland whale, the rorqual, the white whale, cachalot or sperm whale, and others of the cetaceous animals, are abundant. The Greenland whale (the "right whale" of the seamen), the most valuable of the tribe, on account of the greater quantity of blubber and whalebone which it yields, is now confined to very high latitudes: its average length is from 50 to 60 feet, and it rarely exceeds 70 feet. The rorqual, the largest of the tribe, is of considerably greater dimensions, and sometimes measures from 100 to 120 feet. The bottle-nosed whale, a smaller species, is exceedingly abundant in the Arctic seas, and descends to lower latitudes in pursuit of herrings and other fish which constitute its food: it is often caught on the coast of Norway, and occasionally visits our own shores.

(76.) The fresh-water fish which abound in the lakes and rivers of Europe are generally of more valuable qualities in the northern than the southern parts of the continent. In our own islands, the salmon, the trout, pike, and many others, are well known. The salmon is very ex-

tensively diffused, and inhabits the rivers all along the western shores of Europe, from the entrance of the Bay of Biscay to the North Cape, as well as those that fall into the Baltic and the White Seas. The salmon fisheries in the Volga, and its tributary the Oka, in Eastern Russia, are also extremely valuable.

(77.) An extensive fishery of coral (which is the stony covering secreted by a species of polypus, and which belongs to the class of radiated animals, or zoophytes), is carried on in the western portion of the Mediterranean, both on the shores of Northern Africa, and around the Lipari Islands and the coasts of Sardinia and Sicily. The true red coral, of the finest quality and most brilliant colour, is obtained in the neighbourhood of Sicily, and is highly valued : about 8000 lbs. weight are obtained annually.

(78.) *Insects.*—In general, insects increase in numbers and variety of species from the poles towards the equator, and are most abundant in tropical regions, in many parts of which they occur in such swarms as to become literally a plague to man. The temperate climate of Europe, happily, exempts it from this excess of development in the insect world ; yet even in this quarter of the globe, insects are sufficiently numerous, and between 8000 and 9000 species are found in the British Islands alone.

With those insects which pass certain portions of their existence in a state of torpidity, the extremes of heat and cold have more influence on their locality than the mean temperature of the year ; hence, during the brief but intensely hot summers of Northern Europe, the mosquito tribe swarm in great abundance, and constitute an annoyance to the inhabitants of the Arctic regions similar to that which they prove in countries situated within the tropics. In Iceland, Lapland, and the north of Russia, one species of fly (the *culex pipiens*) which passes two-thirds of its existence in water, swarms in myriads during the summer, and proves a torment both to men and animals. Insects are generally abundant in marshy districts ; and in the inundated plains of Hungary, adjacent to the Danube, they appear in such vast numbers, that it is difficult to breathe without swallowing them. Beetles, unlike insects in general, are more numerous in the temperate regions than within the torrid zone, and Europe contains numerous species of them, many of which are familiarly known in our own country.

Of all European insects, the common honey-bee is most directly useful to man, and is extensively distributed over all the central and southern parts of the continent. In the south of Europe, the locust occasionally comes in immense swarms from the shores of Africa, and devastates the corn-fields of Sicily and Southern Italy : it does not, however, breed in Europe, but is a native of the opposite shores of the Mediterranean. The silk-worm, now extensively reared in Southern Europe, is a native of China, and was only introduced into this continent A. D. 493.

Two or three species of scorpion occur in the south of Europe, of smaller size than those of tropical regions : one met with in Sicily is about two inches in length, and its sting is venomous. Ants are everywhere abundant, and two species of the termites, or white ants (distinguished in tropical Africa on account of their destructive habits, and the immense habitations which they construct), occur in the south of Europe. The fire-flies, most numerous in tropical regions, are represented by four

species in Southern Europe. Spiders, of various species, are everywhere numerous, and one, native to Italy—the tarantula—is much celebrated ; its bite is venomous, though not productive of the strange effects formerly supposed to ensue from it. An immense variety of butterflies and moths are dispersed over every part of Europe, but the species are generally confined to particular countries : those of the south of Europe are distinguished by larger size and richer colours than the well-known inhabitants of our own islands.

SECTION IX.—PEOPLE OF EUROPE.

(79.) Europe contains about 270,000,000 of human inhabitants, or rather more than a fourth part of the estimated population of the globe. Nine-tenths of the people belong to the division of mankind usually called the Caucasian variety, which is distinguished by the small size and oval shape of the head, the regularity and beauty of the features, the varying colour of the eyes and hair (and the soft texture of the latter), and the general symmetry of form and figure.

The members of this race are in Europe divided into three principal families, the Celtic, the Teutonic, and the Slavonian,—of which the pure Celtic is confined to some small portions of the west of Europe,—the Teutonic chiefly occurs in the central parts of the continent, and those which lie around the Baltic Sea,—and the Slavonic occupies the eastern portions, embracing the great plain to the south of the 56th parallel, and the countries which occupy the lower course of the Danube. The south, and also a large portion of the west of Europe, is principally occupied by nations of mixed blood, resulting from the intermarriage of members of these three great families.

The small remaining portion of the people of Europe, not belonging to the Caucasian variety, consist principally of—1st, the Turks, who occupy a part of its south-eastern peninsula ; 2ndly, the Magyars, who form a large proportion of the population in Hungary and Transylvania ; 3rdly, the Finns and Laplanders, who occupy the most northern parts of the Scandinavian peninsula and the countries between the Gulf of Bothnia and the White Sea ; 4thly, the Samoiedes, in the north-eastern part of the continent, along the shores of the Arctic Ocean ; and, 5thly, the Kalmucks and other nations of Tartar origin, who occupy the steppes of south-eastern Russia. All of these are members of the Mongolian variety of mankind, and have derived their origin from Asia.

Besides the above are some detached tribes, distinguished by varieties of language rather than by differences of physical conformation ; and also the Jews and the Gypsies, who live among all nations, and preserve themselves from mixture of blood with any. The Jews, however, belong to the Caucasian race ; the origin of the Gypsies is unknown.

(80.) The following summary of the Population of Europe is given by Dr. Kombst : *

Of Pure Blood.

Teutonic	-	-	-	-	-	52,000,000
Slavonian	-	-	-	-	-	50,000,000
Celtic	-	-	-	-	-	12,000,000
Magyar	-	-	-	-	-	9,000,000
Finns and Samoiedes	-	-	-	-	-	3,000,000
Tartar	-	-	-	-	-	2,000,000
Jews	-	-	-	-	-	2,000,000

Total European population of pure blood - - 130,000,000

Of Mixed Blood.

Teutonic Celtic	-	-	-	-	-	22,000,000
Teutonic Slavonian	-	-	-	-	-	6,000,000
Teutonic, mixed with Walloons, in Belgium						1,200,000
Teutonic Northmen, in Normandy	-	-	-	-	-	1,500,000
Celtic, in its various crosses	-	-	-	-	-	56,000,000
Slavonian	-	-	-	-	-	6,000,000
Lettons (in Livonia, to the east of the Baltic)	-	-	-	-	-	2,000,000
Turks	-	-	-	-	-	4,000,000
Turco-Tartar-Slavonic, in centre, south-east, and east of Russia	-	-	-	-	-	2,600,000
Kalmuck, between the rivers Volga and Don	-	-	-	-	-	300,000

Total people of mixed blood in Europe - - 101,600,000

Gypsies - - - - - 600,000

Total population of Europe - - - - 232,200,000

(81.) If we examine the geographical distribution of the languages spoken in different parts of Europe, we find that the greater number of them may be classed under three principal headings ; namely, the Teutonic, the Slavonian, and the Greco-Latin families.

Languages belonging to the *Teutonic* (or German) family are spoken

* Johnstone's "Physical Atlas : " notes accompanying the "Ethnographic Map of Europe."

in the countries occupied chiefly by that group of nations, — embracing England, the south of Scotland, Norway and Sweden, Denmark, Holland, the greater part of Belgium, — and over nearly the whole of Germany.

The *Sclavonic* languages, coincidently with the same family of people, prevail in Sclavonia, Bosnia, Servia, Bulgaria, — all situated between the mountains of the Balkan and Alpine systems and the south banks of the Danube, — in Wallachia (to the north of that river), and in Bohemia, Moravia, Poland, and the southern half of Russia.

The *Greco-Latin* family of languages belongs to the south of Europe, and comprehends the Portuguese, Spanish, French, Italian, and Modern Greek tongues, — all but the last of which have been originally derived from the Latin, variously modified by admixture with the dialects of the aboriginal tribes and those of successive races of invaders and settlers.

The Celtic dialects are now confined to a portion of the native inhabitants of Ireland; to the Highland population of Northern and Western Scotland, the people of the Isle of Man (where a peculiar dialect, called the Manx, is spoken), the inhabitants of Wales, and the Bretons or Armoricans, who occupy the most western portion of the peninsula of Brittany (or Bretagne) in the north-west of France. The native language of Cornwall and the Scilly Islands was also a Celtic dialect, but it is now extinct; and the Celtic languages are everywhere becoming more restricted in range, and in process of being gradually supplanted by those in general use among the population of the countries in which they still exist. In ancient times, however, the Celtic family of languages was much more extensively distributed, and embraced a considerable part of the west of Europe, including the aboriginal population of our own country.

All the above-mentioned families of language, together with some detached dialects of limited extent, belong to the *Indo-European* class; under which designation are embraced the various tongues spoken throughout the wide space between the western shores of Europe and the banks of the river Ganges in the south of Asia. In this immense range of country, which embraces also the dialects of the Arabic and Persian families, the various languages are all found to be more or less connected by affinities of grammatical structure, and by the common possession of words which express some of the simplest and most universal wants of man.

TABLE OF EUROPEAN MOUNTAINS, WITH THEIR ELEVATIONS.

I. *Mountains of the Balkan System.*

Height of sum-
mits, in feet.

Balkan Mountains (Turkey), average height from 2000 to 3000 feet :

Sharra-tagb (lat. 42°, long. 21°, E.) about	-	-	-	-	10,000
Chain of Mount Pindus (Turkey and Greece), from 5000 to 6000:					
Lacha, <i>ancient</i> Olympus (lat. 40° 5', long. 22° 20')	-	-	-	-	9,754
Kissovo, <i>ancient</i> Ossa (lat. 39° 48', long. 22° 40')	-	-	-	-	6,407
Zagora, <i>ancient</i> Pelion (lat. 39° 27', long. 23°)	-	-	-	-	5,210
Monte Santo, <i>ancient</i> Athos (lat. 40° 10', long. 24° 20')	-	-	-	-	6,349
Guiona (lat. 38° 39', long. 22° 16')	-	-	-	-	8,239
Liakhura, <i>ancient</i> Parnassus (lat. 38° 36', long. 22° 42')	-	-	-	-	8,068
St. Elias, <i>ancient</i> Taygetus (Morea)	-	-	-	-	7,900

II. *Alpine System.*

Dinaric or Eastern Alps (Dalmatia and Croatia), from 4000 to 5000 feet:

Mount Kom (lat. 42° 40', long. 19° 45')	-	-	-	-	9,000
Mount Dinara (lat. 44° 8', long. 16° 21')	-	-	-	-	7,453
Mount Klek (lat. 45° 20', long. 15° 1')	-	-	-	-	6,926

The Alps (Illyria, Styria, Tyrol, Italy, Switzerland, France), from 6000 to 9000 feet :

Mount Terglou (lat. 46° 24', long. 12° 51')	-	-	-	-	10,866
Gross Glockner (lat. 47° 8', long. 12° 40')	-	-	-	-	12,766
Drei-berrn Spitz (lat. 47° 8', long. 12° 20')	-	-	-	-	10,122
Pass of the Brenner (long. 11° 31')	-	-	-	-	4,660
Ortler Spitz (lat. 46° 30', long. 10° 40')	-	-	-	-	12,862
Pass of Mount Stalvio (long. 10° 20')	-	-	-	-	9,177
Pass of the Splugen (long. 9° 18')	-	-	-	-	6,946
Pass of Mount Bernardino (long. 9° 10')	-	-	-	-	7,015
Mount St. Gothard (lat. 46° 36', long. 8° 34')	-	-	-	-	10,586
Pass of do	-	-	-	-	6,808
Mount Furka (long. 8° 25')	-	-	-	-	14,087
Monte Leone, or the Simplon (lat. 46° 14', long. 8° 5')	-	-	-	-	11,541
Pass of the Simplon	-	-	-	-	6,578
Monte Rosa (lat. 45° 56', long. 7° 52')	-	-	-	-	15,152
Mont Cervin, or Matter-horn (long. 7° 43')	-	-	-	-	14,837
Pass of Mont Cervin (E. of the Mountain)	-	-	-	-	11,100
Great St. Bernard	-	-	-	-	11,063
Hospice of Great St. Bernard	-	-	-	-	7,963
Pass of Great St. Bernard (lat. 45° 53', long. 7° 9')	-	-	-	-	8,173
Mont Blanc (lat. 45° 50', long. 6° 52')	-	-	-	-	15,780
Little St. Bernard (lat. 45° 41', long. 6° 50')	-	-	-	-	9,591
Pass of do.	-	-	-	-	7,192
Mont Iseran (lat. 45° 31', long. 7° 16')	-	-	-	-	13,274
Mont Cenis (lat. 45° 14')	-	-	-	-	11,460
Pass of Mont Cenis	-	-	-	-	6,775
Mont Genève (lat. 44° 56', long. 6° 42')	-	-	-	-	11,785
Pass of Mont Genève	-	-	-	-	6,119
Mont Viso (lat. 44° 40' long. 7° 5')	-	-	-	-	12,586

In the Bernese Alps, to the North of the Rhone.

Pass of the Grimsel (long. 8° 20')	-	-	-	-	8,400
Finster-aar-horn (lat. 46° 33', long. 8° 6')	-	-	-	-	14,100
Jungfrau (lat. 46° 32', long. 7° 57')	-	-	-	-	13,718
Schreck-horn (lat. 46° 36', long. 8° 6')	-	-	-	-	13,386
Wetter-horn (lat. 46° 39', long. 8° 7')	-	-	-	-	12,910

Mount Jura (France and Switzerland), from 3000 to 4000 feet :

Le Reculet (lat. 46° 18', long. 6°)	-	-	-	-	5,637
Mont Tendre (lat. 46° 36')	-	-	-	-	5,541

The Apennines (Italy), from 3000 to 5000 feet :

Monte Cimone (lat. 44° 14', long. 10° 40')	-	-	-	-	6,975
Monte Sybilla (lat. 42° 56')	-	-	-	-	7,212
Monte Corno (lat. 42° 23')	-	-	-	-	9,521
Mount Vesuvius (lat. 40° 49', long. 14° 26')	-	-	-	-	3,932

III. *Carpathian System.*Height of sum-
mits, in feet.**Southern Carpathians (Transylvania and Wallachia):**

Poyana-Ruska (lat. 45° 42', long. 22° 15')	-	-	-	-	9,912
Valkan Pass (lat. 45° 15', long. 23° 24')	-	-	-	-	-
Rother-thurm Pass (long. 24° 17')	-	-	-	-	-
Szurul (E. of above)	-	-	-	-	7,574
Torsburg Pass (long. 25° 15')	-	-	-	-	-
Bukhest (E. of above)	-	-	-	-	8,700
Tomos Pass (long. 25° 32')	-	-	-	-	-

Carpathian Mountains (Transylvania, Hungary, Moldavia, and Galicia), from 5000 to 6000 feet:

Mount Tatra (lat. 49° 10', long. 20°), highest point	-	-	-	-	8,524
Pass of Jablunka (lat. 49° 30', long. 18° 57')	-	-	-	-	-
Range of Mount Matra (lat. 47° 58', long. 20°)	-	-	-	-	3,312

IV. *Mountains of Germany, or Hercynian System.***Sudetic Mountains (Silesia, Moravia, and Bohemia), from 3000 to 4000 feet:**

Schneeberg (lat. 50° 8', long. 16° 45')	-	-	-	-	4,784
Riesen-Gebirge (Silesia and Bohemia), from 3000 to 4000 feet:					
Schnee-kopf (lat. 50° 44', long. 15° 45')	-	-	-	-	5,274
Erz-Gebirge (Saxony and Bohemia), from 2000 to 3000 feet:					
Sonnen-wirbel (lat. 50° 28', long. 12° 58')	-	-	-	-	4,124
Mährische Gebirge (Bohemia and Moravia), 2178 feet.					
Böhmer Wald (Bohemia and Bavaria), from 3000 to 4000 feet:					
Rachelberg (lat. 48° 58', long. 13° 24')	-	-	-	-	4,561
Fichtel Gebirge (Bavaria):					
Schneeberg (lat. 50° 3', long. 11° 51')	-	-	-	-	3,461
Thüringer Wald (Sachsen-Coburg and Hessen-Cassel), from 2000 to 3000 feet:					
Schnee-kopf, or Beerberg (lat. 50° 42', long. 10° 42')	-	-	-	-	3,075
Harz Mountains (Hanover):					
Brocken (lat. 51° 48', long. 10° 36')	-	-	-	-	3,658
Schwarz-wald (Baden), from 2000 to 3000 feet:					
Feldberg (lat. 47° 52', long. 7° 56')	-	-	-	-	4,675

V. *Mountains of France.***Chain of the Cevennes, from 2000 to 3000 feet:**

Mont Lozère (lat. 44° 45', long. 3° 50' E.)	-	-	-	-	4,884
Mont Mezln (lat. 44° 54', long. 4° 10' E.)	-	-	-	-	5,619
Mont Tarare (lat. 45° 55')	-	-	-	-	4,755

Plateau of Langres (lat. 47° 45') about 1000 feet.**Chain of the Vosges, from 2000 to 3000 feet:**

Ballon d'Alsace (lat. 47° 49', long. 6° 52' E.)	-	-	-	-	4,124
Ballon de Sultz (lat. 47° 54')	-	-	-	-	4,693
Donnersberg (lat. 49° 37')	-	-	-	-	2,225

The Ardennes, about 1800 feet.**Mountains of Forez:**

Pierre sur Haute	-	-	-	-	5,460
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Mountains of Auvergne:

Plomb du Cantal (lat. 45° 4', long. 2° 43' E.)	-	-	-	-	6,093
Puy de Sancy, summit of Mont Doré (lat. 45° 30', long. 2° 49' E.)	-	-	-	-	6,211
Puy de Dôme (lat. 45° 43', long. 2° 53' E.)	-	-	-	-	4,845

VI. *Mountains of the Spanish Peninsula.*

 Height of sum-
mits, in feet.

The Pyrenees (France and Spain), from 7000 to 9000 feet :

Pass de Rat (long. $1^{\circ} 35'$, E.)	-	-	-	-	7,473
Montcal (lat. $42^{\circ} 41'$, long. $1^{\circ} 30'$ E.)	-	-	-	-	10,663
Pic de Nethou, or Maladetta (lat. $42^{\circ} 38'$, long. $0^{\circ} 37'$ E.)	-	-	-	-	11,426
Pass of Venasques (long. $0^{\circ} 34'$ E.)	-	-	-	-	7,917
Mont Perdu (lat. $42^{\circ} 36'$, long. $0^{\circ} 3'$ E.)	-	-	-	-	10,994
Pass of Gavarnie (long. $0^{\circ} 4'$ W.)	-	-	-	-	7,654
Pic du Midi (lat. $42^{\circ} 51'$, long. $0^{\circ} 26'$ W.)	-	-	-	-	9,540

Cantabrian Mountains, from 4000 to 6000 feet :

La Pena de Penaranda (lat. $42^{\circ} 56'$, long. $6^{\circ} 20'$ W.)	-	-	-	-	10,998
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Celtiberian Mountains :

Sierra d'Oca (lat. $42^{\circ} 20'$, long. $3^{\circ} 30'$ W.)	-	-	-	-	5,450
Sierra Molina (lat. $40^{\circ} 25'$, long. $1^{\circ} 38'$ W.)	-	-	-	-	4,500

Castilian Chain, from 4000 to 5000 feet :

Pass of the Somo Sierra (lat. $41^{\circ} 7'$, long. $3^{\circ} 37'$)	-	-	-	-	4,944
Palace of the Escorial (lat. $40^{\circ} 39'$, long. $4^{\circ} 9'$ W.)	-	-	-	-	3,264
Sierra de Gredos (lat. $40^{\circ} 38'$, long. $5^{\circ} 17'$ W.)	-	-	-	-	10,548
Sierra d'Estrella, Portugal (lat. $40^{\circ} 19'$)	-	-	-	-	7,524

Mountains of Toledo, from 3000 to 5000 feet :

Sierra de Guadalupe (lat. $39^{\circ} 20'$, long. $5^{\circ} 20'$ W.)	-	-	-	-	5,115
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Sierra Morena, from 2000 to 3000 feet :

Puerto de Rey (long. $3^{\circ} 40'$ W.)	-	-	-	-	2,274
Sierra Monchique, Portugal (lat. $37^{\circ} 20'$, long. $8^{\circ} 34'$ W.)	-	-	-	-	4,079

Sierra Nevada, from 6000 to 9000 feet :

Peak of Mulhacen (lat. $37^{\circ} 6'$, long. $3^{\circ} 27'$ W.)	-	-	-	-	11,151
Peak of Veleta (lat. $37^{\circ} 4'$, long. $3^{\circ} 34'$ W.)	-	-	-	-	11,389
The Alpuxarras (lat. $36^{\circ} 50'$)	-	-	-	-	9,165
Rock of Gibraltar (lat. $36^{\circ} 8'$, long. $5^{\circ} 20'$ W.)	-	-	-	-	1,437

 VII. *The Scandinavian Mountains.*

Hardanger-field (lat. $60^{\circ} 40'$, long. $7^{\circ} 50'$)	-	-	-	-	5,748
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Pass of Fille-field (lat. $61^{\circ} 4'$, long. $8^{\circ} 2'$)	-	-	-	-	3,975
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Langfield :

Skagstol-tind (lat. $61^{\circ} 24'$, long. $7^{\circ} 55'$)	-	-	-	-	8,101
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Dovre-field :

Snee-hæetten (lat. $62^{\circ} 20'$, long. $9^{\circ} 20'$)	-	-	-	-	8,120
Sylfiellen (lat. 63° , long. $12^{\circ} 12'$)	-	-	-	-	6,486

Koelen Mountains :

Sulitelma (lat. $67^{\circ} 5'$, long. $16^{\circ} 20'$)	-	-	-	-	6,178
North Cape (Island of Mageröe)	-	-	-	-	1,161

 VIII. *The Ural Mountains.*

Chain of the Ural, from 2000 to 2500 feet :

Konjakovski (lat. $59^{\circ} 38'$)	-	-	-	-	5,397
Yaman (lat. $54^{\circ} 13'$, long. $58^{\circ} 8'$)	-	-	-	-	5,400
Iremel (lat. $54^{\circ} 30'$, long. $58^{\circ} 46'$)	-	-	-	-	5,075

 IX. *Caucasian System.*

Chain of Mount Caucasus, from 8000 to 9000 feet :

El-burs (lat. $43^{\circ} 8'$, long. $42^{\circ} 50'$)	-	-	-	-	16,493
Kasbek (lat. $42^{\circ} 46'$, long. $44^{\circ} 45'$)	-	-	-	-	16,530
Pass of Dariel (long. 45°)	-	-	-	-	8,000
Chatyr-dagh (Crimea), highest point	-	-	-	-	5,110

The heights of the insular summits are stated in Sect. iv. (Arts. 44-47), and those of the British Islands, in greater detail, will be found in a succeeding chapter (Chap. IV.).

CHAPTER III.

CONNEXION BETWEEN THE PHYSICAL GEOGRAPHY OF EUROPE AND THE PURSUITS AND SOCIAL CONDITION OF ITS INHABITANTS.

(82.) THE connection between the natural features and productions of any country, and the condition and pursuits of its inhabitants, is direct and obvious. In the early stages of society, men are naturally impelled to become hunters and herdsmen, or tillers of the soil, or fishermen, according as the circumstances of the district in which they are located point to one or other of these courses as the best adapted for the supply of their daily wants. The difficulty of satisfying all their desires within the limits of any one region naturally leads to the mutual interchange, between themselves and the people of an adjacent district, of their respective productions; and thus, even amongst the rudest tribes, traffic springs up, and commercial intercourse is engendered. A tribe occupying an intermediate position between the producers of different commodities, who mutually desire to effect an interchange of their respective wealth, will become the agents of this intercourse: as in ancient times the Arabians, though themselves the inhabitants of a country which produced little of any real value, were yet the instruments of an extensive traffic between the east and the west; and the caravans which crossed their deserts were the means by which the silks and jewels, the aromatic gums and spices, of India and China, were exchanged for the corn, fine linen, and other manufactured commodities of Egypt.* It is doubtless true, that in a more advanced condition of society, man is able, by the appliances of intelligence and skill, to overcome natural obstacles, and literally to *subdue* nature to his own purposes; but still the great features of the pursuits towards which his industry is directed have received their impress from the hands of nature, and will always be found in close connection with the physical condition of the country which constitutes his home.

The inhabitants of an inland region cannot become mariners, or engage directly in the pursuit of foreign commerce; nor can the tribes who roam over the deserts of Arabia, or the high and sterile plateaus of Central Asia, be other than dwellers in tents, whose sole wealth consists in the flocks and herds which they lead for pasturage from one district to another. From the earliest ages at which history presents them to notice, the people of Cornwall, at the western extremity of our own country, have been miners, and traffickers in their tin and copper with those who visited them from distant regions, and brought them in ex-

* Compare with Genesis, xxxvii. 25.

change the productions of foreign lands. At the present day, a large proportion of the industry of our country is directly employed (as we shall hereafter have occasion to notice in detail) in obtaining from beneath the surface of the soil the mineral wealth with which it is so richly endowed, and which again furnishes in its turn the means of carrying on other branches of industrial occupation. In all ages, the people who dwell around the Mediterranean Sea have been, to a greater or less extent, engaged in commercial intercourse between its opposite shores; while those who occupy the coasts of the Atlantic Ocean, with its broader and more open expanse of water, have been led to the pursuit of foreign trade, and to the discovery, across its swelling waves, of another world in the distant regions of the farthest west.

If we examine attentively the physical geography of Europe, and compare its various natural features with the social and industrial condition of the different nations by whom it is populated, we everywhere find evidence of the peculiar adaptation of this division of the globe for the home of that branch of the human race by whom civilisation has been carried to its most extended limits, and the moral and intellectual condition of man most fully cultivated. And in doing this, we are observing the subservience of means to an end, in the designs of an all-wise and beneficent Providence, by whom this portion of the eastern continent was doubtless destined to fulfil the important part which it has performed in the world's history, and to be the means of spreading its enlightenment over other parts of the globe.

(83.) The extended coast-line of Europe, owing to its numerous peninsulas and islands, and its generally indented shape, has been already noticed (Art. 16.); but in order that the importance of this feature in its formation may be adequately appreciated, it is requisite to compare it in this respect with the other divisions of the globe. The following Table exhibits the superficial extent of each continent in square English miles, together with the length of coast-line possessed by each (in English miles), and the proportion which the latter of these measures bears to the former : —

	Surface.	Coast-line.	Square miles of surface for 1 mile of coast.
Europe - - - -	3,700,000	19,500	190
Asia - - - -	17,500,000	35,000	500
Africa - - - -	12,000,000	16,000	750
North America - -	8,600,000	24,500	350
South America - -	7,000,000	14,500	482
Australia - - - -	3,000,000	10,000	300

Europe has thus, we find, in proportion to the extent of its surface, nearly three times as much coast-line as Asia, about four times as much as Africa, more than twice as much as South America, and nearly twice as much as North America, which last continent approaches nearest to it in general irregularity of outline.

It results from this circumstance, that Europe has more facility of extended intercourse between its different parts than is possessed by any other division of the globe. Its surrounding seas throw off gulfs which penetrate far into the body of the mainland, and so facilitate communication between its opposite shores. Between the Bay of Biscay and the Mediterranean Sea (at the Gulf of Lyons) is an isthmus of only 230 miles in breadth : between the head of the Adriatic Sea and the southern shores of the Baltic, less than 600 miles intervene ; and between the Baltic and the Black Seas, little more than 700 miles. With the exception of the great level region of Eastern Europe, no part of the mainland is much more than 400 miles distant from the nearest sea, and in all the more western parts of the continent, the distance between the opposite seas is considerably less. The Mediterranean and Black Seas on the south, and the Baltic with its gulfs on the north, thus give its peculiar character to the external configuration of Europe, which is in shape less solid, less massive, less uniform, than the other parts of the globe.

Europe is essentially the region of *peninsular* formations ; its outline is more varied, more broken, and all its parts more readily accessible from without. Add to this the fact that nearly every part of its widely extended coast contains good harbours, and we see the primary and enduring cause of its maritime supremacy in all ages.

(84.) If from this general view we pass to more local features, we may observe that, next to its Mediterranean shores, in no part of Europe is this peninsular character more abundantly repeated than in the archipelago of the British Islands, particularly on the western coasts of Great Britain, every part of which presents a succession of advancing and receding points, with arms of the sea flowing between. And if we institute an analogy involving a more extended view of the distribution of land and water on the earth's surface, — as in ancient times, Rome, situated on a peninsula which projects into the very centre of the Mediterranean, was fitted by position to be the mistress of the world which lay around its shores, — so Britain, begirt by an ocean which lies midway between the continents of either hemisphere, and occupying a place in the centre of the terrestrial half of the globe, seems to occupy exactly the spot designed by nature for the seat of commercial empire and maritime greatness.*

As the Mediterranean has guided the civilisation of the south of Europe, by promoting intercourse between its different regions, so has the Baltic aided that of its northern portion. Before the commencement of the eighteenth century, Russia (which then possessed no territory on the shores of the Baltic) was cut off from intercourse with the rest of Europe ; it was practically an isolated region, united by no social or

* If we divide the globe into two hemispheres by a great circle passing to the south of Africa, through the southern extremity of Asia, and intersecting South America, we have the greatest possible quantity of land brought within the limits of one hemisphere, and the greatest quantity of water represented in the other. Of the terrestrial hemisphere thus exhibited, London occupies the central point, and its antipodes that of the oceanic half of the globe.

commercial ties with the nations of the west. But when the success of his arms enabled Peter the Great (in 1703) to lay the foundation of Petersburg, the great capital of northern Europe, the country of which it constitutes the seat of empire immediately became a member of the European commonwealth, with the different parts of which its communication, through the agency of the broad highway of the Baltic, was rendered direct and constant. If, in place of the Baltic, an unbroken mainland had stretched westward to the shores of the Atlantic, the civilisation of Russia might have been delayed for another century, and an outlet for the superfluous abundance of her forests and her hides would have been wanting to the industry of her people.

(85.) The mountain systems of the Balkan and the Alps constitute on the north a natural barrier to the Grecian and Italian peninsulas, and sufficed to protect the early civilisation which grew up in those favoured regions from the rude assaults of barbarian strength. During a long series of the early ages of history, the chain of the Alps marked the limits between civilised and savage life: on the south of the mountains were arts, letters, cultivation, refinement, and the growing majesty of the Roman name; on the north, vast forests, uncultured plains, wandering hordes of hunters and shepherds, and the rude warriors of the German tribes. So great is the influence exercised by a mountain range,—so striking the contrasts which ensue from the circumstance of its physical position and aspect! But the tribes of the north, meanwhile, grew in their ruder strength, and when — impelled by their increasing numbers, and urged on by the pressure of other nations from the eastward — they broke through the barriers of nature, and in the later days of the Roman empire poured their warriors with resistless force upon the rich plains of Lombardy, and overspread the fertile valleys of southern Italy, they infused a fresh vigour and a more manly strength into a people enervated by luxury and rendered indolent by a long continuance of prosperity. From the contact of the north with the south — the latter represented by a people who had grown up amidst the most advantageous circumstances of nature, under a bright and glowing sky, and in a genial climate — the former by tribes who had attained their maturity under the more bracing influences of a colder temperature and a less attractive aspect of nature — sprang the mingled strength which exhibited itself in such various forms of intelligence and activity, and which, through the storms and darkness of the early portion of the middle ages, prepared the way for the triumphs of genius effected at a later time. The result of these combined influences is exhibited in the artists and architects, the poets and philosophers, of mediæval Italy, and in the commercial enterprise of the maritime cities of Venice, Genoa, Pisa, and others which clustered around her shores.

(86.) But it is in the infinite diversity of formation shown in the mountainous districts of Europe, that the most striking results of physical circumstances are exhibited. No part of the world contains a greater number of districts which are (so to speak) complete in themselves,—districts, each of which is watered by its own river and tributary streams, has its own line of sea-coast, and is divided from neighbouring districts by a chain of hills; so as to fit it for the culture, among its inhabitants, of their own peculiar pursuits, and the growth of their own social forms and customs.

This peculiarity in the formation of Europe is illustrated by the generally small extent of the river systems in its mountainous parts, especially in the peninsulas adjacent to the Mediterranean. and the number of small and partly detached valleys into which these countries are divided : the basin of each little river is a province or district by itself, and the watershed between its streams and those of neighbouring tracts forms the natural (and, in many cases, also the political) boundary between their respective inhabitants. When, with the increase of population, and the extension of commercial intercourse, the people occupying these several districts have mingled together, the various circumstances amongst which they have grown up have mutually acted and re-acted upon the faculties and tendencies of each ; and the diversity thus everywhere surrounding them has helped to enkindle intelligence, to awaken exertion, to stimulate thought, and to draw out those infinitely varied resources by which the inhabitants of this division of the globe have in all ages been distinguished.

(87.) The Grecian peninsula, in perhaps a higher degree than any other part of Europe, illustrates this diversity of physical aspect, and the striking results which so many and infinitely varying forms of nature produced upon the people exposed to their influences. From one large peninsula it divides into several smaller regions of analogous shape, each broken in external contour by inlets of the Mediterranean waters. Its surface is mountainous throughout : the chain of Pindus, as it advances southward, throws off on either side numerous spurs, which advance to the very shores of the sea, terminating in bold headlands, which constitute prominent landmarks to the mariner who ploughs the *Ægean* or the *Ionian* waves. These branch chains again spread themselves in various directions, and cover almost the whole surface of the land, dividing it into numberless little districts, each an entire physical region in itself, and each in early ages the home of a little nation.

To this circumstance we may doubtless in great measure ascribe the early and long-enduring division of ancient Greece into so many distinct political communities, each with its own peculiar institutions, and united only for purposes of common interest, as when called on to repel the progress of a foreign invader. Familiar with the sea, from their position and the frequent visits of the traders of *Phœnicia*, as the numbers of their people increased, they resorted in the natural course of things to colonisation ; and the southern shores of Italy and Sicily served as resting-places in their advance westward along the coasts of the Mediterranean. Again, in the delightful character of their climate, the various aspects of the scenery, and the countless diversities in the forms and productions of the natural world by which they were surrounded, the people of ancient Greece found that varied cultivation of their faculties whence ensued those triumphant achievements in art and literature which have rendered their memory so enduring, and which still remain as models for the imitation of after ages.

(18.) The Spanish peninsula may be pointed to as illustrating in another form the influence of physical circumstances upon the pursuits and character of mankind. Spain forms naturally three different regions : the north. — high, rugged, and broken, covered in great part by the ranges of the *Pyrenees* and the *Cantabrian Mountains*, the latter of which descend by a rapid succession of terraces to the shores of the Bay

of Biscay ; the centre, — consisting of elevated plateaus only scantily watered, and spreading out into broad and unsheltered plains ; and the south and south-east, — occupied by rich and fertile plains which are washed by the waters of the Mediterranean. The northern parts of the peninsula have a temperate and variable climate, resembling that of the middle regions of Western Europe, and the productions of the vegetable kingdom are similar to those which belong to the central zone of the continent : the apple-tree flourishes, the sides of the hills are clothed with forests of oak and chestnut, and the valleys, watered by abundant rains, yield a rich harvest of corn to the husbandman. The inhabitants of these provinces are, in general, a bold, hardy, and industrious race of mountaineers.

The high plateaus in the centre of the peninsula are destitute of trees, and are alternately exposed to the parching influences of the summer sun, and swept by the piercing blasts of winter : the climate is here remarkable for its dryness, so great as sometimes almost to destroy vegetation. The chief occupations of the people are pastoral, and consist in rearing their immense flocks of sheep, which annually migrate with the winter season from the mountains of Castile and Leon to the warmer plains of Estremadura. The south and south-eastern borders of the table-land (to which also the narrow region of Portugal, on its western declivity, bears a great resemblance) possess a climate of almost tropical heat, and abound in many of the richest productions of the vegetable kingdom. The inhabitants here cultivate the fig and the olive, the vine and the sugar-cane ; and the myrtle, the orange, the lemon, the laurel, and the mulberry, are of the most common occurrence.

Thus within the limits of a single peninsula we find a physical conformation which almost realises on a small scale the diversities of the entire continent of Europe ; but, taken as a whole, how much less favourable to the development of man than the Grecian peninsula ! The coast-line of Spain is comparatively unbroken, so as to close its central parts to access from without ; and its rivers, which seem to afford inlets to the interior, are, owing to the aridity of its high plateaus, only capable of navigation in their lower courses, which belong to the sister kingdom of Portugal. The climate of its interior regions presents extremes of heat and cold : it is, in fine, a land of contrasts, rather than, like Greece and Italy, a country of harmonious and softly-blending diversities ; and the inhabitants of its different parts have their pursuits and characters modified accordingly.

(89.) The extensive and diversified inland drainage of Europe tends in no small degree to assist the industrial pursuits, and to promote the welfare, of its inhabitants. The greater number of its rivers are navigable,—many of them through almost the entire length of their courses,—and in most cases their mouths form safe and commodious harbours for the protection of shipping and the encouragement of commerce. The importance of a river is not always to be estimated by the length of its course, or even the principal rivers which belong to this division of the globe would appear of little value in comparison with the gigantic streams of Asia and America. But many of those which make the most insignificant figure upon the map of Europe, as, for instance, the numerous streams which water our own islands, afford the ready means of transmitting the native productions of the soil, or the fruits of manufac-

turing industry, from one extremity to the other of the districts through which they flow, and thus serve a purpose of the greatest utility to mankind. The courses of the rivers point out the direction which the internal trade of various countries has taken from the earliest times, and in which it still continues to flow. It is either upon their banks or at their mouths that we find nearly all the great commercial cities of Europe established, and the greatness of these will in most cases be found to be in direct proportion to the natural facilities which they enjoy for communication with adjacent districts.

(90.) The extent to which many of the principal rivers of Europe are navigable has been noticed in the preceding Chapter (Section III.) ; but the facility with which the head-waters of streams that flow in opposite directions from the same line of watershed may, in many cases, be connected together, and lines of communication be thereby opened between different seas, is especially deserving of remark. This feature of European hydrography is most conspicuously developed in the great eastern plain, where, as we have already observed (Art. 34.), the line of watershed between the Black and Caspian Seas on the one side, and the Baltic and White Seas on the other, is marked only by inconsiderable elevations, and is in some parts perfectly level. At seven different places an artificial communication, by canals uniting the rivers on either side, has been made across this line, and a complete inland navigation thus effected across the greatest breadth of the continent.

In two of these cases the waters of the White Sea become united with those of the Caspian. In three instances, lines of communication are opened between the basin of the Volga and the waters of the Baltic. And in two others, a junction is effected between streams that flow respectively into the Baltic and the Black Seas. There are, besides, several other cases in which the rivers of Eastern Europe are united by canals.

Thus by the aid of short artificial channels, which owe their accomplishment to the natural facilities for such works presented by the watershed of Eastern Europe, several great commercial highways are formed, which unite together its northern and southern regions, enable the inhabitants of each to effect a mutual interchange of their respective productions, and tend to assimilate their manners, pursuits, and institutions. In circumstances of this kind, not less than in the opposite results which ensue from the high and scarcely passable barrier of a mountain chain, we see the bearing of physical geography upon the social and industrial condition of mankind, and the importance of a careful study and correct comprehension of its details.

(91.) Although the mountainous formation of Central and Western Europe interposes obstacles to such undertakings, yet here the waters of the Danube and the Rhine are united by a canal constructed across the table-land of Bavaria, which connects the Altmulh, a tributary of the former river, with the Regnitz, one of the affluents of the Mayn, and belonging to the basin of the Rhine. In the south of France, the Bay of Biscay is united to the Mediterranean Sea by the Canal of Languedoc (or Canal du Midi), which extends from the upper course of the Garonne across the plain intervening between the Cevennes and the Pyrenees. In the British Islands, again, the watershed between the rivers of the German Ocean on the one side, and those of the Irish Sea on the other,

is crossed by numerous canals, by means of which, and the navigable portions of the rivers, a continuous water communication is effected between the seas which wash the opposite shores of our island.

(92.) The peculiar characteristics of the climate of Europe have already been fully dwelt on, and their influence—combined with the general fertility of its different regions—has doubtless tended to call forth those habits of industry, and various resources of skill and intelligence, by which the people of this part of the globe are so eminently distinguished. With the exception of that portion of the steppes which adjoins the Caspian Sea, the cold tracts that border on the Arctic Ocean, and a few isolated districts of small extent, Europe has no absolutely sterile regions,—few that will not yield a remunerative return to the labours of the husbandman. It has no vast sandy deserts, like the plateaus of Central Asia and Arabia, or the Sahara of Northern Africa. Even in its most mountainous regions the valleys are generally fertile, and the sides of the hills susceptible of cultivation.

But the soil of Europe does not exhibit the exuberant and spontaneous productiveness of tropical regions; it requires for the most part the steady labour of man, and the patient exercise of his forethought and care, to call forth its riches, and it is precisely this quality that has led to the greatest development of man's industrial powers, and the cultivation of his intelligent faculties. In the fertile plains of the torrid zone,—where, under the influence of a tropical heat, combined with the moisture diffused by the great rivers of those regions, vegetation is developed in the greatest excess, and the earth pours forth its fruits in spontaneous abundance,—man has no necessity to cultivate the soil; his immediate wants are provided for by nature, without the occasion for exertion on his own part; and he becomes the victim of supine indolence, knowing no higher pleasures than the gratification of his sensual appetites and inclinations. Exposed, on the other hand, to the opposite influences of the frozen zone, man has to maintain a perpetual struggle against the rigour of nature; the mere supply of his daily wants engrosses his whole attention, and he never attains to the full development of his moral and intellectual powers. Like the members of the vegetable and animal kingdom around him, he becomes dwarfed in stature and stunted in growth. Such are the people of Lapland, and the Samoides, who occupy the most northern tracts of the European continent, and who are equally below the highest type of humanity on the one hand, as the natives of most parts of the torrid zone (from an opposite cause) are on the other. But the inhabitants of the greater part of Europe are impelled by the natural qualities of both the climate and soil to the exercise of industry: the labours of the husbandman are not absolutely suspended, as in some parts of the globe, by the annual recurrence of long seasons of drought alternating with similar periods of excessive moisture. The rains, moderate in quantity, are dispersed through the entire year, and the succession of the seasons varies, rather than checks, the business of the cultivator.

(93.) The portions of Europe endowed with the greatest natural fertility are those adjacent to the shores of the Mediterranean, as the plain of Lombardy, the valleys and plains of Sicily, the hills and valleys of Greece and Southern Turkey, and the southern, south-eastern, and

western parts of the Spanish peninsula. All the middle and south-west portions of Russia, embracing the great plain to the south of the watershed (Art. 31), are also very fertile tracts, and constitute the most corn-producing country in Europe. The plains of Hungary and the Lower Danube are very fertile, though marshy districts of some extent occur in the neighbourhood of the rivers. All over the east of Europe, however, vast tracts are covered with forests, and agriculture is probably not yet developed in those regions to one-hundredth part of the extent of which it is capable. In the plains to the south of the Baltic, some sandy tracts, and others covered with heath, occur; but these are of moderate extent, and both here and in Western Europe in general, the soil only requires cultivation to yield good harvests of wheat, barley, rye, and other productions useful to man. The general character of our own country in this respect is well known, and some more detailed particulars are stated in the account of the British Islands.

The northern slope of the great plain of Russia of course exhibits the influences of the increasing severity of the climate, and presents an alternation of forests, meadows, marshes, and barren moorlands. The soil scarcely yields a sure return to the husbandman further north than the parallel of 60° , though in some places, along the banks of the rivers, cultivation extends to a higher latitude. The character of the vegetable productions of these regions and of the countries of the Scandinavian Peninsula have, however, been already noticed (Arts. 65 and 66.).

(94.) In describing the distribution of the more useful metals and minerals throughout Europe, we have noticed the large extent to which they are made available to the purposes of man, and the vast quantities of some of them which are annually extracted from the bowels of the earth. The number of people engaged in working the various coal mines of Great Britain is upwards of 200,000; besides a large number of persons employed in the coal trade, for which purpose about 12,000 ships annually enter the port of London alone. Including copper, lead, tin, and other metals, the total number of persons in Great Britain employed in working the various mines amounts to nearly 250,000. Again, the various branches of the iron trade in England and Wales give employment to more than 200,000 people.

But even facts like these give but a slight and imperfect idea of the extent to which the industry of the people of this division of the globe is directed into particular channels by the greater or less abundance of the productions of the mineral kingdom of nature. They show only its direct consequences; but the indirect results, especially those which ensue from the coal and iron so abundant in our own country, are of much wider range and of greater importance. The manufacture of metals into various articles of use and ornament has always been a characteristic branch of industry in Southern Europe and the western parts of Asia, and was extensively carried on during even the darkest portions of the middle ages. The various metal-works in our islands minister in a thousand ways to the supply of our daily wants and household necessities. The numerous railways now in operation in Great Britain, and also in France, Belgium, Germany, and other European countries, all owe their formation to the plentiful distribution of iron ore in this part of the world; and the iron, again, is only capable of being turned to good account by the occurrence of coal in near proximity with it.

Thus do the various productions of nature, when properly employed by the industry and skill of man, minister to his wants ; and the mutual action and re-action of the world of material nature, and the world of intelligence and thought, one upon the other, tend to elevate the scale of human happiness and enjoyment, and give evidence of the wise and beneficent provisions of a creating and over-ruling Providence.

(95.) In another department of the natural kingdom, the extensive fisheries carried on by the maritime nations of Europe deserve remark, and show how much local position has favoured the development of this branch of industry. In England and Wales alone, more than 23,500 people are directly engaged in the fisheries carried on round our shores, chiefly those of the herring, pilchard, mackarel, and cod. An idea of the commercial importance of even some of the smaller members of the animal kingdom may be formed from the fact, that between 300,000 and 400,000 barrels of herrings are sometimes cured in Great Britain alone in a single year, and that 10,000 hogsheads of pilchards have been taken on shore in one port in a single day.* The fisheries on the coasts of Holland and Denmark, and also those of the inland seas of Europe, have been already mentioned (Arts. 74-76.), and are of great value, not merely on account of the produce they yield, but also from their tendency to foster a spirit of enterprise and hardihood among those engaged in them.

In the period between the ninth and thirteenth centuries, the hardy fishermen of the north, dwelling upon the shores of the Baltic and North Seas, and nurtured, as it were, amidst their waters, were especially distinguished for their bold and adventurous voyages ; and, stimulated to further undertakings by the discoveries made in successive enterprises, were indulging that pursuit of adventure in distant lands which has always formed so characteristic a feature of the maritime nations of Europe, and thus preparing the way for the subsequent discovery of the New World. It may be true, indeed, that warlike and piratical incursions, rather than the peaceful pursuits of industry, were the chief object of these undertakings ; but still, the result upon the character of the nations engaged in them, in the development of courage and hardihood, familiarity with danger, endurance of fatigue and privation, and the growth of a manly independence of character, was the same ; and it is from elements such as these, directed by a wiser and juster spirit of intelligence, that has grown up the spirit of that foreign commerce which carries the flags of the nations of Western Europe (and especially that of Britain) to the most distant parts of the globe.

(96.) The comparative density of the population in the different countries of Europe coincides, in some measure, with the proportional fertility of its various regions ; though the one is not always to be regarded as a direct consequence of the other, since many countries—as Spain, Portugal, Turkey, and the south of Russia—are capable of supporting a much greater number of inhabitants than they actually possess ; while others,—as Holland, and some of the provinces of Belgium—have, on the contrary, though not naturally fertile, been made by persevering industry the seats of a dense population. The average density of the

* "The Ocean," by P. H. Gosse, London, 1845.

whole population of Europe is 73 to the square mile. The most thinly inhabited country is Norway, which has only ten inhabitants to the square mile; Sweden has only 19, and Russia only 28. In Belgium, the most populous country of Europe, there are 400 inhabitants to the square mile; in England, 335; in Ireland, 200; in Holland, 238; in Italy, 214; in France, 176; and in Germany, 176. In general, the density of population decreases from the south towards the north, and (in a still greater ratio) from the west towards the east. It is on the shores of the Atlantic that the inhabitants of Europe are most thickly clustered.

(97.) Finally, viewing the physical geography of Europe as a whole, we may regard it as a great maritime region, — of temperate climate, — abundantly supplied with inland waters, — with a generally fertile soil, — and possessing both a contour and surface so diversified as to afford the greatest possible amount of external aid in developing the powers of man, and assisting his progress towards civilisation. Europe has neither pathless deserts, nor inaccessible mountains; and throughout its entire length and breadth — from the shores of the Atlantic to those of the Caspian, from the Arctic Ocean to the southern extremity of Greece and Italy — it presents no obstacle which the persevering industry of man is not able to overcome, no physical difficulty which he is incapable of surmounting. The Mediterranean Sea has been the highway by which he has advanced, and its peninsulas and islands have served as stepping-stones and resting-places in his course. What the Mediterranean has done for the south, — the Baltic, and the seas between the British Islands and the mainland, have accomplished for the north. The south, with its genial climate, its fertile soil, and the protecting shelter of its mountain chains, has nurtured the childhood and youth of man, and its river-basins have constituted the seats of his early social institutions and national divisions. His period of manhood has been reared among the more bracing and hardier influences of the north, and has there developed a ruder strength and a more vigorous nature. From the combination, upon the shores of the Western Ocean, of these diverse (and yet harmonious) elements, has resulted that character for energy and enterprise, for calm determination and resolute endurance, which has placed the people of Europe foremost in the path of the world's progress.

CHAPTER IV.

GREAT BRITAIN AND IRELAND.

(98.) THE superior importance of an acquaintance with the geography of our native land makes it necessary to describe the British Islands at greater length than other countries, and the maritime supremacy and commercial greatness of the British Empire entitle it to rank first in the list of European nations.

The general features of Great Britain and Ireland have been noticed in Art. 45 ; but it will be desirable to examine these in greater detail, before proceeding to notice the seats of particular branches of industry, and the localities of the principal towns. This will be done under the three heads of—England (including Wales), Scotland, and Ireland.

SECTION L—ENGLAND AND WALES.

(99.) *Extent and Boundaries.*—England (including Wales) is bounded on the north by Scotland ; on the west by the Irish Sea, St. George's Channel, and the Atlantic Ocean ; on the south by the English Channel ; and on the east by the German Ocean. The line of division between England and Scotland is formed by the lower course of the river Tweed, the high ground of the Cheviot Hills, and the estuary of the Solway Firth.

The most northern point of England and Wales is adjacent to the town of Berwick-upon-Tweed, lat. $55^{\circ} 46'$; its most southern point is the headland called The Lizard (in Cornwall), in lat. $49^{\circ} 58'$. A straight line between these two points (which does not pass continuously over the land, but crosses the estuary of the Bristol Channel), measures 423 English miles. The most eastern point, Lowestoft Ness, on the coast of Suffolk, is in $1^{\circ} 46'$ E. longitude, and the most western extremity is the Land's End of Cornwall, in $5^{\circ} 42'$ W. longitude. A line drawn between Lowestoft Ness and the Land's End measures 364 miles ; but the real breadth of the island is greatest in the south — where a straight line drawn between the Land's End and the South Foreland of Kent measures 320 miles,—and thence diminishes northward, until, towards its nor-

thern extremity, along the line of the 55th parallel, it is only 64 miles between the opposite seas on either side. The *mean* length of the country from north to south is indicated by the meridian of 2° west, which passes through the town of Berwick-upon-Tweed, and which thence to the south coast of Dorsetshire measures 360 miles; — the average *breadth* of the island to the south of the parallel of 53° is about 220 miles, and between the 53rd and 55th parallels, about 120 miles. Looked at as a whole, and disregarding intervening projections of the land, the figure of England and Wales bears some resemblance to a triangle, of which a line drawn along the south coast may be taken as the base, and the town of Berwick-upon-Tweed as the apex.

(100.) The total superficial area of England and Wales is 57,813 English square miles, of which 50,387 belong to England, and 7426 to Wales. The length of coast-line, measured along the principal salt-water inlets and estuaries, exceeds 1800 miles.

(101.) *Capes.* — The principal headlands are: —

On the East Coast.

	Height in feet.		Height in feet.
Flamborough Head (Yorkshire)	. 214	The Naze (Essex)	. 100
Spurn Head (Yorkshire)	. .	Shoebury Ness (Essex)	. .
Lowestoft Ness (Suffolk)	. 119	North Foreland (Kent)	. 184

On the South Coast.

	Height in feet.		Height in feet.
South Foreland (Kent)	. 375	St. Alban's Head (Dorset)	. 344
Dunge Ness (Kent)	. 92	Portland Bill (Dorset)	. 30
Beachy Head (Sussex)	. 564	Berry Head (Devon)	. .
Selsey Bill (Sussex)	. .	Start Point (Devon)	. .
St. Catherine Pt. (Isle of Wight)	. 178	Bolt Head (Devon)	. 430
Durleston Head, (Dorset)	. .	The Lizard (Cornwall)	. 224

On the West Coast.

	Height in feet.		Height in feet.
Land's End (Cornwall)	. 100	Braich-y-Pwll (Caernarvon)	. .
Hartland Point (Devon)	. 350	Linas Head (Anglesey)	. 128
Mumble Head (Glamorgan)	. 114	Great Orme's Head (Caernarvon)	673
Worms Head (Glamorgan)	. 164	Point of Aire (Flint)	. .
St. Goven's Head (Glamorgan)	. .	Formby Point (Lancashire)	. .
St. David's Head (Glamorgan)	. .	St. Bees' Head (Cumberland)	. 333

(102.) *Coasts.*—The western shores of Britain are generally bolder and more elevated than the eastern, and in the portion of the island now under description the most continuous lines of high and rocky coast occur on the shores of South Wales and Cornwall. About three-eighths of the whole length of the western coast consist of cliffs, the remainder either of low sandy, or marshy, land.

Rather more than half the south coast of England is lined by cliffs, which are generally higher in the western than in the eastern part of the channel. The promontory of Portland Bill is the termination of a narrow strip of land called the Isle of Portland, though really a peninsula, and connected

with the mainland by the Chesil Bank,—a ridge of shingle upwards of ten miles in length, composed of loose rounded stones.

On the east coast, the cliffs which occur to the north of Flamborough Head are bold and elevated; those to the south of that point form in general low and nearly level walls, composed either of clay or chalk. Immediately to the south of the Humber, and round the west and south sides of the Wash, and also on great part of the coast of Essex, the shores are low and marshy.

(103.) *Estuaries, Bays, &c.*—The principal inlets on the east coast are—the mouth of the Tees, the estuary of the Humber, the Wash, and the mouth of the Thames.

On the south coast are Portsmouth Harbour, Southampton Water, Weymouth Bay, Tor Bay, Plymouth Sound, Falmouth Bay, and Mounts Bay. The channel which separates the Isle of Wight from the mainland is called Spithead in its eastern half, and the Solent in its western portion.

On the west coast is the great estuary of the Bristol Channel, different portions of which form Barnstaple, Swansea, and Caermarthen Bays. Further to the northward are Milford Haven, St. Bride's Bay, Cardigan Bay; the mouths of the Dee, Mersey, and Ribble,—Morecambe Bay, and the Solway Firth. The channel between the Isle of Anglesey and the mainland is called the Menai Strait.

The coast of the English Channel to the east of Selsey Bill is deficient in natural harbours, which are also wanting in many parts of the eastern shores of England; but along the remainder of the south coast, and also along great part of the western shores, many of the estuaries form excellent harbours. Among the principal of these are, Portsmouth Harbour, Plymouth Sound, Falmouth Harbour, and Milford Haven, all of which are capable of receiving vessels of the largest size, in perfect security.

(104.) *Depth of Seas; Rise of Tides, &c.*—Of the seas which lie around the shores of Britain, that on the west side is deepest,—that on the east, the most shallow. Near the east coasts of England the mean depth of the German Ocean is not generally more than from 100 to 120 feet at a distance of about 40 miles from the shore; off the mouth of the Thames, it is about 120 feet; off the Wash, only 70 feet; off Flamborough Head, 120 feet; and off the coast of Northumberland, from 200 to 250 feet. At a greater distance from land, the mean depth of its bed is only about 145 feet in the parallel of Flamborough Head, and 100 feet in the latitude of the mouth of the Tyne, but it deepens considerably further northward. In general, however, the central parts of the German Ocean are less deep than those nearer the land (excepting close in shore) owing to extensive banks which occupy a large portion of its bed. The largest of these is

the *Dogger Bank*, which stretches through its central part for more than 300 miles from north to south. Further to the south are the *Goodwin Sands*, which lie off the coast of Kent, and form a dangerous impediment to navigation. The mean depth of water over the Goodwin Sands does not exceed from six to ten feet. The deeper channel between these sands and the coast forms a roadstead called the Downs.

The English Channel gradually increases in mean depth from about 150 feet in its eastern, to between 250 and 300 feet in its western, portion: the deepest part of the sea between Beachy Head and the opposite coast of France is 210 feet; off the south coast of the Isle of Wight, 276 feet; and off the Land's End, at the entrance of the channel, 380 feet.

The bed of the Irish Sea is deep throughout, and, excepting at its north-eastern extremity, is not generally less than from 200 to 400 feet in mean depth. Midway between the coast of Cumberland and the Isle of Man, the depth is about 100 feet; between the Isles of Man and Anglesey, 200 feet; and between Anglesea and the coast of Ireland, 400 feet. The central part of St. George's Channel has a mean depth of 300 feet; the sea near the western extremity of the Bristol Channel has an average depth of about 150 feet, which increases southward along the shores of Cornwall to 250 feet.

The rise of tide is in general greater on the west than on the south or east coasts, and, owing to the fact that the estuaries on the west side of the island have their openings directed *towards* the advance of the great tidal wave of the Atlantic, the height which the tide attains in them is very considerable. In the Solway Firth, in Morecambe Bay, and at the mouth of the Severn, the tide advances with great rapidity and impetuosity; and as its channel is narrowed by the nearer approach of the opposite shores, it rises to an astonishing height, amounting at the mouth of the Severn (near the junction of the Wye), to 60 feet. A similar phenomenon, though to a less conspicuous extent, occurs in the Wash, on the east coast. The general rise of the tides around the shores of England is, however, much less; at the mouth of the Thames, the ordinary rise is 19 feet; at Yarmouth, 7 feet; at the entrance of the Wash, 22 feet; at the mouth of the Humber, 18 feet; at the mouth of the Tyne, 15 feet. In the English Channel, off Brighton, the rise of tide is 21 feet; at Portsmouth 17 feet; and at the mouth of Plymouth Sound, 16 feet. In the Irish Sea, the rise at the entrance of the Solway Firth is 21 feet; at the mouth of the Mersey, 16 feet; at Holyhead, 24 feet; off the entrance of Milford Haven, 36 feet; and off the south-west coast of Cornwall, 19 feet. At the entrance of Dublin Bay, on the west side of the same sea, it is only 12 feet; and further south, on the coast of Wicklow, much less.

(105.) England is divided into 40 *counties* or *shires*, which may be arranged in the following manner:

<i>Six Northern.</i>	<i>Five Eastern.</i>	<i>Fourteen Midland.</i>
Northumberland.	Lincolnshire.	Staffordshire.
Durham.	Cambridgeshire.	Derbyshire.
Cumberland.	Norfolk.	Nottinghamshire.
Westmoreland.	Suffolk.	Leicestershire.
Yorkshire.	Essex.	Warwickshire.
Lancashire.		Worcestershire.
		Oxfordshire.
		Buckinghamshire.
		Middlesex.
		Hertfordshire.
		Bedfordshire.
		Huntingdonshire.
		Northamptonshire.
		Rutlandshire.
<i>Nine Southern.</i>	<i>Six Western.</i>	
Kent.	Cheshire.	
Surrey.	Shropshire.	
Sussex.	Herefordshire.	
Berkshire.	Monmouthshire.	
Hampshire.	Gloucestershire.	
Wiltshire.	Somersetshire.	
Dorsetshire.		
Devonshire.		
Cornwall.		

Yorkshire is divided into three parts, called *ridings* (the North, East, and West Ridings).

Wales is divided into twelve counties, as follows :

<i>North Wales.</i>	<i>South Wales.</i>
Anglesey.	Cardiganshire.
Caernarvonshire.	Radnorshire.
Denbighshire.	Brecknockshire.
Flintshire.	Glamorganshire.
Merionethshire.	Caermarthenshire.
Montgomeryshire.	Pembrokeshire.

(106.) *Surface of the land.* — Only the north part of England has a mountainous character: the greater portion of its surface is either undulating, or consists of extensive plains. And even the most elevated regions, with few exceptions, consist rather of high and wide-spreading moorlands, with rounded hill-tops, than of continuous mountain chains or ranges, properly so called.

Among the principal tracts of high ground which belong to this portion of the island are the Cheviot Hills, the Pennine Chain, the Cumbrian Mountains, the North York Moors, the Wolds of Yorkshire and Lincolnshire—all of which lie to the north of the 53rd parallel.

Further south are the hills which border upon either side the valleys of the Severn and the Thames. To the former belong the Clee Hills, the Malvern Hills, the Cotswolds, the Clent Hills, and the insulated mass of the Wrekin. To the latter, the Chiltern Hills and the North Downs (or the hills of Kent and Surrey). The South Downs extend in a direction parallel to the last-named range, along the southern coast, through Sussex and the adjoining county of Kent.

Further westward, in the southern part of the island, are the high chalk tract of Salisbury Plain, with the Mendip, Quantock, and Blackdown Hills; and, in the extreme south-west, the high grounds of Devonshire and Cornwall.

(107.) The *Cheviot Hills* form part of the border line between England and Scotland. Their highest summit bears the name of Cheviot, and is a round-topped mountain, 2668 feet in elevation.

The *Pennine range* of England commences with the western portion of the Cheviot Hills, and forms a broad tract of high ground, which extends thence southward to the district of the Peak, in Derbyshire, and nearly even to the banks of the Trent. It lies in the direction of north and south, the highest axis of elevation nearly coinciding with the boundary-line between the six northern counties of England,—Northumberland, Durham, and Yorkshire being on the east side of the range; Cumberland, Westmoreland, and Lancashire on the west. The Pennine Range constitutes the most continuous extent of elevated land in England. Cross Fell, the highest summit which it includes, is 2927 feet above the level of the sea. Cross Fell is near the borders of Cumberland and Durham, and contains the sources of the South Tyne and the Tees. Whernside, Ingleborough, and Pen-y-gent, all within the county of York, are further to the southward.

The Peak, in Derbyshire, is a region of rounded hills and high moorlands, intersected by deep valleys. Its highest point, called Kinder Scout, is 1981 feet above the sea-level. From the Peak southwards, the high grounds gradually sink down towards the banks of the Trent, forming several long valleys, or dales, which are watered by the tributaries of that river.

(108.) The *Cumbrian Mountains* are a distinct group of heights, lying to the westward of the Pennine chain, with which, however, they are connected by a transverse range of high ground. They cover a large portion of Cumberland and Westmoreland, together with the district of Furness, in the north of Lancashire.

The higher portions of the Cumbrian group exhibit a more rugged and mountainous aspect than the hills in any other part of England, and they exceed any others in altitude. The highest point amongst them, Scawfell Pikes, is 3229 feet above the level of the sea, and is the most elevated summit in England. Helvellyn, 3055 feet, and Skiddaw, 3022 feet, are the next in elevation. The long and narrow valleys which are contained within the Cumbrian mountain-region are generally the beds of lakes, which are more numerous here than in any other part of England, and add greatly to the natural beauties of scenery which the district possesses.

(109.) The *North York Moors* lie upon the eastern side of the county of York, towards the shores of the North Sea. They form a high and for the most part barren tract, with rounded surface, rising in some parts into bleak hills. The highest point is 1489 feet above the sea.

The *Wolds* of York and Lincoln are high tracts of chalk, which rise with a steep ascent on their western side, and slope more gradually to the eastward, towards the sea. They are divided by the estuary of the Humber, which separates the adjoining counties.

(110.) To the south of the 53rd parallel, and to the eastward of the meridian of 2° w., the surface of England is chiefly of an undulating character, with broad plains that slope gradually towards the banks of the rivers. The hills which occur are of greatly inferior altitude to those above described, and only two eminences exceed a thousand feet in height.

The *Chiltern and East Anglian Hills* (which form together a continuous range of chalk downs, stretching from the east side of the Wash, in a south-westerly direction, as far as the banks of the Thames), scarcely exceed nine hundred feet above the level of the sea, in their highest point. The most elevated summit of the Chiltern Hills, properly so called (in the counties of Bucks and Oxford), is little more than eight hundred feet.

The *Clee Hills*, in Shropshire, rise to 1805 feet above the sea. The *Malvern Hills*, on the borders of Worcester and Hereford, attain 1444 feet. The detached mass called the *Wrekin*, to the eastward of Shrewsbury, is 1320 feet in height. The *Clent Hills*, in the county of Worcester—to the eastward of the Severn—reach 1007 feet in their highest point. The *Cotswold Hills*, further to the south, in Gloucestershire, attain 1134 feet.

(111.) The southern counties of England, from the coast of Kent as far westward as the course of the Salisbury Avon, are traversed by two parallel ranges of chalk hills, between and adjacent to which are gently undulated tracts of country. These two ranges of chalk are the *North and South Downs*—the former in Kent, Surrey, and Hampshire, the latter in the counties of Sussex and Hants, nearly along the shores of the English Channel. The elevation of these chalk ranges rarely exceeds eight hundred feet, though a few points surpass that altitude. *Salisbury Plain* (in Wiltshire), which also belongs to the chalk formation, is between five and six hundred feet in elevation.

The *Mendip Hills*, in the northern part of Somersetshire, are 1100 feet in height. The *Quantock Hills* (also in Somerset, on the west side of the river Parret,) are 1270 feet high. The *Blackdown Hills*, on the borders of Somerset and Devon, are of nearly equal elevation. The high tract of ground called *Exmoor* (in Somerset and North Devon) reaches in its most elevated point to 1668 feet.

(112.) The south-western extremity of England forms a peninsular region, which exhibits great variety of surface, and the high grounds of which attain a greater altitude than any other portion of the country to the southward of the Trent. This tract includes the counties of Cornwall and Devon. The main mass of the Devonshire highlands consists of *Dartmoor*, which is a granitic plateau of irregular surface, and all the higher portions of which reach to upwards of twelve hundred feet above the sea. Cawsand Beacon, the most elevated point, is 1792 feet.

The *Cornish Highlands* also form high granite plains, with elevated summits, the loftiest of which reaches to 1364 feet above the sea.

(113.) The most considerable tracts of level ground which occur in England are the York Plain, the Cumbrian and Cheshire Plains, the Central Plain, the Fen District, the Eastern Plain, and the Valleys of the Severn and Thames.

The *York Plain* lies to the eastward of the Pennine range, and is the most extensive valley in the island. It is watered by the different streams that unite in the channel of the Ouse and enter the Humber.

The *Cumbrian and Cheshire Plains* lie on the western side of the Pennine range — the former to the northward, the latter southward, of the Cumbrian group of mountains. The Cheshire plain is of great extent, and includes (besides the county whence its name is derived) nearly all the southern part of Lancashire.

The *Central Plain* of England is a tract of moderate elevation, varying from 200 to 400 feet above the sea-level. It includes (as the name implies) the midland portions of the country, between the valleys of the Trent, the Severn, and the upper Thames, on the north, west, and south, and the Fen District on the east. It exhibits no striking features of surface, although many of the principal rivers of England have their origin within its limits.

The *Fen District* lies around the southern and western sides of the estuary of the Wash, and derives its appellation from the circumstance of the tract which it embraces being naturally of a marshy character. It includes portions of the counties of Lincoln, Northampton, Cambridge, and Huntingdon, with smaller portions of Norfolk and Suffolk.

The *Eastern Plain* lies along the shores of the German Ocean, and includes the greater portion of the counties of Norfolk, Suffolk, and Essex. It is divided by the chalk range of the East Anglian Hills from the low region of the fens.

The Valleys of the Severn and Thames correspond with the courses of those rivers, and consist of the low or gently-sloping grounds which lie along their banks. The valley of the Severn is called locally by different names, in various parts of its course. The other river-valleys of the island have numerous names which are in most cases derived from those of the streams by which they are watered.*

(114.) Wales, which lies to the westward of England, is altogether a mountainous region, in which the high grounds cover probably not less than nine-tenths of the surface.

The *Welsh Mountains* consist neither of a single range, nor a succession of mountain chains. They form rather a high mountain-region, in some places spreading into broad masses of table-land, intersected by deep valleys, and in others forming huge mountain-summits, which rise conspicuously above the surrounding grounds. The highest elevations are generally found near the line of the western coast.

The most elevated summit in Wales is Snowdon (in the county of Caernarvon), which reaches the height of 3590 feet — a superior altitude to that of any mountain in England. Cader Idris, in the county of Merioneth, is 2959 feet high. Plynlimmon, further south, on the borders

* The physical geography of England will be found described in greater detail in the Author's "Manual of British Geography," to which the student is referred for further information as to the surface of the country, and similar particulars.

of Montgomery and Cardigan, is 2481 feet. Brecknock Beacon, the highest summit in South Wales, reaches 2862 feet.

(115.) *Islands*. — The principal islands that lie near the shores of England and Wales, are Man, Anglesey, and Wight. Besides these are many of smaller size : as Walney Island and others, on the coast of Lancashire ; Bardsey Island and some small adjacent islets, near the shores of Caernarvon, in North Wales, with Ramsey Island and others, off the coast of Pembroke, in South Wales ; Lundy Island, off the coast of Devon ; the Scilly Islands, at the entrance of the English Channel, to the south-west of Cornwall ; Portsea, Hayling, and Thorney Islands, adjoining the south coast of Hampshire ; Thanet and Sheppey, adjacent to the county of Kent ; Canvey Island and others, on the coast of Essex ; with Coquet, the Fern Islands, and Holy Island (or Lindisfarn), near the shores of Northumberland.

The *Isle of Man* lies in the Irish Sea, midway between the shores of Great Britain and Ireland, and has an area of 220 square miles. Its interior is elevated, the highest point, Snea-fell, rising to 2004 feet above the sea.

The *Isle of Anglesey* nearly adjoins the Welsh coast, from which it is divided by the narrow channel of the Menai Strait. It forms one of the Welsh counties, and includes an area of 271 square miles. Anglesey is for the most part flat, but the smaller tract of Holy Island (which is united to it on the west by two embankments, and which contains the town of Holyhead) rises to 700 feet above the sea.

The *Isle of Wight*, off the coast of Hampshire, has an area of 135 square miles. Its surface is exceedingly varied : a range of chalk hills runs through the centre of the island, and reaches an altitude of nearly 700 feet. St. Catherine's Hill, towards the southern coast of the island, is still higher and attains 830 feet.

The *Scilly Islands* are a numerous group of islets and rocks, situated about thirty miles to the s. w. of the Land's End, and including together an area of between seven and eight square miles. Only six of them are inhabited. The largest island of the group is called St. Mary, which is between nine and ten miles in circumference.

The islands of *Thanet and Sheppey*, in Kent, are almost a part of the mainland. The former terminates to the east in the high chalk cliffs of the North Foreland.

(116.) *Rivers*. — The longest river of England and Wales (and likewise one of the largest in the area of its basin) is the Severn, which discharges its waters into the Bristol Channel, on the west side of the island. But, with this exception, most of the principal streams flow towards the east coast, and empty themselves into the basin of the German Ocean. This results from the fact that the highest

elevations of the land are situated nearer the western than the eastern shores, so that the general slope of the entire island is directed from west to east.

In the north of England, the watershed between the river-basins of the opposite seas is formed by ground of considerable elevation, and coincides with the principal axis of the Pennine Chain. But in the central, southern, and eastern parts, the watersheds are of trifling height, and can sometimes only be traced with difficulty, — the head-waters of the opposite streams frequently approaching within a short distance of one another. Neither the ranges of the Chiltern Hills, nor those of the North and South Downs, form lines of watershed, but are broken through by numerous river-valleys. The entire drainage of the Welsh mountain-system belongs to the western seas, the waters of the longer slope flowing to the S. E. and N. E. by the valleys of the Severn and the Dee, and those of the shorter and more rapid declivity into Cardigan Bay and the western extremity of the Bristol Channel.

(117.) The principal rivers of England and Wales, commencing on the east coast, from north to south, and proceeding round the island, are the following :

On the east side, — the Tyne, the Wear, the Tees, the Humber (formed by the junction of the Ouse and the Trent): the Witham, the Welland, the Nen, and the Great Ouse, all of which flow into the estuary of the Wash; the Yare, the Orwell, the Stour, the Colne, and the Blackwater; the Thames, which forms at its mouth a broad estuary, and receives also the waters of the Medway; and another river Stour, which flows through the county of Kent and enters the sea on the coast intervening between the North and South Forelands. All these rivers flow into the German Ocean.

On the south coast the rivers have mostly short courses: the most considerable are the Avon (flowing past Salisbury), the Exe, and the Tamar; besides which are the Rother, the Ouse (of Sussex), the Adur, the Arun, the Itchen, the Anton, the Stour (of Dorsetshire), the Frome, the Axe, the Otter, the Teign, the Dart, and many others. All of these flow into the English Channel.

On the west side, the Torridge and the Tawe both flow into Barnstaple Bay; the Parret, the Bristol Avon, the Severn, the Wye, the Usk, and the Taff, into the upper portion of the Bristol Channel; the Neath and the Tawe, into Swansea Bay; the Towy, into Caermarthen Bay; the Teify, into Cardigan Bay; the Conway, the Dee, the Mersey, the Ribble, the Lune, the Kent, and the Derwent, into the Irish Sea; the Eden into the head of the Solway Firth.

Besides the above, there are a great number of smaller streams, by which every part of the land is watered: these may be best learnt by attentive study of the Map.

(118.) The *Tyne* (upon which Newcastle stands) is formed by two branches, one of which — the North Tyne — rises on the Cheviot Hills; the other — the South Tyne — has its source upon the mountain called Cross Fell, in the Pennine Range. The Tyne has a course of 70 miles in length, and drains an area of 1100 square miles.

The river *Wear* (which is wholly within the county of Durham) has a length of 70 miles, and drains an area of 460 square miles.

The *Tees* rises (like the South Tyne) upon the side of Cross Fell, and has a length of 75 miles. The area of its basin is 744 miles.

The river *Humber* is properly an arm of the German Ocean, formed by the junction of the Ouse and the Trent, the former of which has a length of 150, and the latter of 180 miles. The Ouse (which waters the plain of York) is formed by the confluence of the Swale and the Yore, and afterwards receives the streams of the Nidd, Wharfe, Aire, Don, and Derwent, all, excepting the last-named, on its right bank. The Trent rises in the moorlands of Staffordshire, and receives on its right bank the rivers Tame and Soar; on the left, the Dove and Derwent. Below the confluence of the Trent and Ouse, the Humber is joined by the river Hull, on the Yorkshire side of its estuary, and by the Ancholme, from the Lincolnshire side. The entire area drained by the Humber is 9550 square miles.

The river *Ouse* (distinguished as the Great Ouse), the longest of the rivers which enter the Wash, has a length of 145 miles, and drains an area of 2960 miles.

The *Thames*, which is the longest river on the east side of the island, rises in Gloucestershire, upon the eastern slopes of the Cotswold Hills, and flows into the German Ocean after a course of 215 miles. It receives on its right bank the streams of the Kennet, Wey, Mole, Darent, and Medway; and on the left, the Cherwell, Thame, Colne, and Lea. The basin of the Thames includes an area of 6160 square miles. The Thames is navigable for nearly the entire length of its course, and ships of the largest class ascend the estuary which it forms towards its mouth, below London Bridge.

The *Avon** (of Salisbury) is the longest river on the south side of the island. It has a course of 70 miles in length, and drains an area of 1210 square miles.

The *Ere* (upon which Exeter stands) has a length of 55 miles, and a basin embracing 640 square miles.

* There are several rivers of this name. The three principal are the one here referred to, which flows past Salisbury into the English Channel; the Avon of Bath and Bristol, or the Lower Avon, which enters the Bristol Channel; and the Upper Avon, which flows past Warwick and Stratford, and joins the Severn. There are also several rivers which bear the name of Derwent; and those called the Rother, Stour, and others, present similar instances. See the "Manual of British Geography."

The *Tamar*, on the borders of Devon and Cornwall, is 55 miles long, and drains 600 square miles. It forms before reaching the sea the fine estuary of Plymouth Sound, at the head of which it is joined by the streams of the Tavy and the Plym.

The *Lower* (or Bristol) *Avon* has a length of 65 miles, and drains an area of 900 square miles. It enters the Bristol Channel, immediately below the mouth of the Severn.

The river *Severn* rises amidst the mountains of Wales, upon the side of Plinlimmon, and enters the Bristol Channel after a course of 240 miles, through the greater part of which it is a navigable stream. The area of its drainage is 5540 square miles. Its chief tributaries are the Teme, on the right bank ; the Virnwy, the Tern, the Stour, and the Upper Avon, on the left bank. The Severn exceeds in length of course any other river in the British Islands.

The *Wye* rises also in Wales, and on the slopes of Plinlimmon, only a short distance from the source of the Severn. It enters the Bristol Channel after a course of 120 miles, draining an area of 1500 square miles.

The *Mersey* is the most considerable of the rivers that enter the Irish Sea. It flows from the western side of the Pennine range, and has a course of 70 miles in length, draining an area of 1750 square miles. On its right bank the Mersey is joined by the river Irwell, which passes Manchester ; on the left, by the stream of the Weaver.

The great estuaries formed by the Humber, the Wash, and the mouth of the Thames, on the *east* coast, and the upper portion of the Bristol Channel, on the *west*, receive the greater part of the running waters of the island. The united area of the river-basins of the Wash (including the Witham, Welland, Nen, and Ouse) is 5850 square miles : and of the Severn, the Bristol Avon, the Wye, and the Usk, jointly 8580 miles : if we add to these the areas of the Humber and the Thames drainage, we have a total of 30,140 square miles, or more than half the entire superficial extent of England and Wales.

(119.) *Lakes*. — The only part of England in which lakes are numerous is the group of the Cumbrian Mountains. The largest of them, Windermere, is $10\frac{1}{2}$ miles in length and one mile in breadth ; Ulleswater, the next in magnitude, is eight miles long and about three quarters of a mile broad ; and Coniston, the third in dimensions, has a length of $5\frac{1}{2}$ miles and an average breadth of half a mile.

The smaller lakes found in the same region are Wast Water, Ennerdale, Buttermere, Crummock, Lowes Water, Derwent Water, Bassenthwaite, and Thirlmere, — all situated on the w. and n. w. slopes of the mountain tract : Hawes Water, which (as well as Ulleswater) lies on the n. e. side of the mountains ; Rydal Water, Grassmere, and Esthwaite Water, in the valleys opening towards the south, which is also the direction of Windermere and Coniston. Nearly all of these are long and narrow, or else oval-shaped, bodies of water.

Derwent Water lies at an elevation of 288 feet above the sea, Ulles-

water of 318 feet, and Windermere of 116 feet. The small lake of Hawes Water is 714 feet above the sea-level. Windermere is in some parts 240 feet deep, and exceeds any of the others in depth, excepting Wast Water, which is 270 feet in its deepest part. The greatest depth of Ulleswater is 210 feet. Numerous waterfalls occur in the lake district: the principal are *Scale Force*, beside Crummock Water, 190 feet high; Barrow waterfall, 124 feet, and Lowdore waterfall, 100 feet, both on the east side of Derwent Water.

Some small lakes or *meres* occur in the Fen District, the principal of which are Ramsay Mere and Ugg Mere, both situated in the county of Huntingdon. The small lake of *Breydon Water*, near the mouth of the river Yare, is on the borders of Norfolk and Suffolk; a few miles to the south of it is *Lake Lothing*, in the latter county.

(120.) The largest lake in Wales is the *Lake of Bala* or *Llyn Tegid*, out of which flows the river Dee: it is four miles long and about two-thirds of a mile broad, and has an average depth of 40 feet. *Llyn Conway*, the source of the river of that name, is one mile long by three-quarters broad. The *Lakes of Llanberris*, on the n. w. side of the Snowdon group of mountains, consist of an upper and a lower lake, both long and narrow; their water flows by the little river Seiont into the Menai Strait. But lakes are not generally numerous in the Welsh mountain system, and most of those which occur are of very small size.

The largest lake in South Wales is *Llyn Safaddan*, or *Brecknock Mere*, (to the s. e. of the town of Brecknock), about 3 miles long by 1 broad, and not more than 10 or 12 feet in average depth. It is situated in a comparatively low and level district.

(121.) *Minerals*. — The mineral productions of England and Wales have been already mentioned, and their great abundance described (Art. 63.).

The following is a list of the principal coal-fields.

1. *The Northumberland and Durham coal-field*, in the counties of those names.
2. *The Whitehaven coal-field*, in the western portion of Cumberland.
3. *The South Lancashire coal-field*, stretching across nearly the whole of the southern part of that county.
4. *The Leeds and Nottingham coal-field*, extending through the south part of Yorkshire into the counties of Derby and Nottingham.
5. *The Leicestershire coal-field*, occupying the n. w. part of the county, in the neighbourhood of Ashby-de-la-Zouch.
6. *The Warwickshire coal-field*, extending from the neighbourhood of Coventry to the northern extremity of the county.
7. *The North Staffordshire coal-field*, extending over the district of the Potteries.
8. *The South Staffordshire or Dudley coal-field*, extending from the neighbourhood of Birmingham and Dudley, northward towards the banks of the Trent.
9. *The Shropshire coal-field*, consisting of some detached portions, the principal of which is situated in the neighbourhood of Coalbrook Dale (s.e. of Shrewsbury), in the valley of the Severn, on both sides of which the coal formation occurs.

10. *The Dean Forest coal-field*, in the district of that name, to the west of the lower course of the Severn, in the county of Gloucester.
11. *The Bristol coal-field*, the most southern in the island, consisting of several small and detached portions in the counties of Gloucester and Somerset, on either side of the Bristol Avon.
12. *The North Wales or Flintshire coal-field*, in the counties of Flint and Denbigh, and extending on both sides of the estuary of the river Dee.
13. *The Anglesey coal-field*, of small extent, in the island of that name.
14. *The South Wales coal-field*, extending through the counties of Glamorgan, Caermarthen, and Pembroke.

Iron ore is abundant in nearly all the above districts. The localities in which iron is most extensively made are South Wales, Staffordshire, Shropshire, Yorkshire, North Wales, Derbyshire, the n. w. part of Durham, and the adjacent portion of Northumberland. Of the total quantity worked, the South Wales coal-field supplies nearly one-half. Iron-sand is also abundant in the weald of Sussex and Kent, and iron was formerly extensively worked in that district; but the superior advantages possessed by the coal districts, in the immediate proximity of the fuel required for smelting the ore, have caused the iron-works in this locality to be long since abandoned.

Copper is most abundant in Cornwall, and also occurs in Devonshire, the Isle of Anglesey, and Staffordshire. All the Cornish copper ore is carried to Swansea to be smelted.

Lead occurs chiefly in Derbyshire, Northumberland, Cumberland, North Wales (in the counties of Flint and Denbigh), in South Wales, and in Devonshire. *Zinc* is also obtained from the sulphuret of zinc associated with the lead, but is most extensively obtained from calamine, its proper ore, mines of which are worked in Derbyshire.

Tin occurs only in the counties of Cornwall and Devon, chiefly the former, in which this metal has been worked from the earliest ages.

A small quantity of *silver*, chiefly extracted from the lead ore, is found in the counties of Cumberland, Derby, and Flint: its produce is, however, too small to be of any commercial importance.

Salt occurs chiefly in the county of Cheshire, in the valley of the river Weaver. Brine-springs also occur at Droitwich, in Worcestershire, and at some places in the county of Durham. All of these are situated in the new red sandstone formation.

Limestone is abundant in almost every part of England and Wales. The best kinds of *building-stone* are obtained from a narrow belt of the magnesian limestone formation, which extends from north to south through the counties of York, Nottingham, and Derby, and which is extensively quarried for the purpose. Stone of excellent quality is also worked in the district called the Isle of Portland (in the south part of Dorsetshire), which belongs to the oolitic formation, in many other parts of which quarries are likewise formed. *Slate* is chiefly obtained in the regions of the Cumbrian and Welsh mountain systems.

(122.) *Mineral Springs*.—Springs impregnated with saline compounds occur at Epsom, (in the county of Surrey); at Cheltenham, and Clifton, near Bristol (in Gloucestershire); at Bath (Somerset); Leamington (Warwick); and Buxton and Matlock (both in Derbyshire).

Chalybeate waters, that is, springs impregnated with iron, are found at Tunbridge-Wells (*Kent*), Brighton (*Sussex*), Cheltenham (*Gloucester*), Great Malvern (*Worcester*), and at Harrowgate (*Yorkshire*). The waters at Harrowgate, Cheltenham, and Leamington, are also partly sulphureous.

The only warm springs which occur in England are at Bath, Clifton (near Bristol); and at Buxton, Bakewell, Stoney Middleton, and Matlock, all in Derbyshire. The highest temperature of the Bath waters is 117° , of those at Clifton 74° , Buxton, 82° , and Matlock about 69° . Near Cardiff, in the county of Glamorgan (South Wales), is a warm spring, the temperature of which is 21° above that of the place, and which contains saline ingredients.

(123.) *Climate*. — The general character of the climate of the British Islands has been already described (Arts. 49. and 52.). They have everywhere a higher average temperature than places on the continent in similar latitudes, and experience in a less degree the extremes of heat and cold. The western shores, both of Great Britain and Ireland, are warmer than the eastern.

The lowest average of winter temperature, about 35° or 36° , is found on the east coasts of England and southern Scotland, embracing the district which extends from the Naze, in Essex, to the Firth of Forth, and within which the coldest portion of the kingdom is consequently situated.

The highest average of summer temperature, about 64° , is experienced in the south and south-west portions of England, which are the warmest parts of the kingdom. On the south coasts of Devonshire the climate is so mild that the myrtle flourishes in the open air all the year round; and the shores of Cornwall and South Wales exhibit the same kind of climate, though in a less striking degree.

More rain falls in the western parts of England and Wales than in the eastern districts, and more in the hilly than in the level portions of the island. The average quantity which falls annually at a few principal localities is stated below :

At Hastings . . .	28 inches.	At Coniston . . .	85 inches.
Dover . . .	30 "	Bolton . . .	47 "
London . . .	25 "	Manchester . . .	36 "
Cambridge . . .	20 "	Liverpool . . .	35 "
Norwich . . .	25 "	Swansea . . .	35 "
Bedford . . .	27 "	Cheltenham . . .	32 "
Derby . . .	27 "	Bristol . . .	30 "
York . . .	23 "	Salisbury . . .	35 "
Shields . . .	25 "	Exeter . . .	36 "
Carlisle . . .	30 "	Plymouth . . .	40 "
Whitehaven . . .	52 "	Falmouth . . .	40 "
Keswick . . .	70 "	Penzance . . .	41 "
Kendal . . .	56 "	Torquay . . .	28 "

The prevalent winds in our country are from the westerly quarters of the heavens: these are warm, and (the south-west winds especially) frequently accompanied by moisture. The north, north-east, and east winds are cold and generally dry: those between west and north are of

mixed character. On a comparison of the number of days in the year upon which westerly and easterly winds have been found to blow, during a long period of observation, it appears that the westerly winds exceed the easterly in the proportion of 225 to 140; and that the northerly exceed the southerly as 192 to 173. South-west winds prevail most in the months from June to December (inclusive); north-east winds are of most frequent occurrence in the months between January and May (inclusive). The prevalence of these cold winds in spring constitutes, indeed, the chief defect in the climate of Great Britain, and frequently operates as a check to the operations of agriculture.

(123.) The general character both of the *vegetation* and *zoology* of the British Islands resembles that of the adjacent portions of the continent (Arts. 65-78.) There are, indeed, many local peculiarities in the development of each of these departments of the natural world. Thus the south-west, the south-east, the eastern, and the western districts of England, are each the peculiar seat of plants not found in other parts of the island, and some even are confined in their range to single counties. But these are generally of small size, chiefly grasses, heaths, and various wild flowers; and, though interesting to the naturalist, they are not otherwise important.

Among the plants of larger size most widely spread over both England and Scotland, and forming some of the principal components of British vegetation, are the common oak, the elm, the birch, the alder, the hazel-nut, the aspen, the dwarf-willow, the common yew, the black-thorn, the blackberry, the common ash, the holly, and the common dog-rose. The birch, alder, poplar, mountain-ash, and Scotch fir, are the principal native woods in Scotland.

The maple, the beech, the Spanish chesnut, the elm, and the common mistletoe, occur chiefly in the southern part of England, and diminish in frequency northward. Every plant which is universally spread over the British Islands is also a native of Germany.

(124.) *Forests*.—Owing to the extension of cultivation, and the increasing demand for timber, the woodland districts of England are by no means so extensive as formerly, and bear but a very small proportion to the whole surface of the country.

The districts at present most extensively covered with wood are the New Forest (*Hampshire*), Dean Forest (*Gloucester*), Whittlebury and Salcey Forests (*Northampton*), Alice Holt, Woolmer, and Bere Forests (all in the eastern part of *Hampshire*), Wychwood Forest (*Oxfordshire*), Hainault (or Waltham) and Epping Forests (*Essex*), Windsor Forest (*Berks*), Delamere Forest (*Cheshire*), and Sherwood Forest (in the county of *Nottingham*). Besides these, there are many other tracts which still retain the name of forest, though now only thinly covered with trees, and in some instances entirely cleared of timber.

(125.) *Inhabitants*.—The population of England and Wales, according to the census taken in 1851, was as follows:

England	-	-	-	-	16,920,736
Wales	-	-	-	-	1,005,833
					<hr/>
Total	-	-	-	-	17,926,569

This is equal to an average of 335 inhabitants to a square mile in England, and 135 in Wales.

The population is very unequally distributed; Wales is thinly inhabited throughout, and only three of its counties have more than 200 inhabitants to the square mile. These are Flint, Glamorgan, and Anglesey. The county of Merioneth has only 58 inhabitants to the square mile.

The least populous of the English counties is Westmoreland, which has only 76 inhabitants to the square mile, though some districts in the mountainous portions of Northumberland have even a still smaller ratio of population; the south-east part of Northumberland, in the neighbourhood of Newcastle, and also the adjoining portion of Durham, are, however, thickly inhabited. Cumberland has 128 inhabitants to the square mile. The North Riding of Yorkshire has a ratio of only 104 inhabitants.

The counties of Middlesex and Surrey, which contain London, the metropolis of the empire, are the seats of the most dense population: Middlesex has 6690, and the eastern division of Surrey upwards of 2000, inhabitants to the square mile. Next in order of populousness are Lancashire and the West Riding of Yorkshire.

Of the mineral counties, those which include or adjoin the principal coal-fields are all the seat of a considerable population: Durham has 356 inhabitants to a square mile, Stafford 514, Cheshire 433, Derby 288, Nottingham 323, Leicester 285, Warwick 529, Worcester 383, Gloucester 364. These, with Lancashire, the West Riding of Yorkshire, and the metropolis, embrace the principal seats of manufacturing industry. The counties of Devon and Cornwall, the population of which is scattered, and chiefly confined to the immediate neighbourhood of the mines, —and which embrace moreover a large proportion of unproductive moorland, — have respectively 219 and 267 inhabitants to the square mile.

In England, therefore, the great centres of population are—London;—the country around and between Manchester and Liverpool, in South Lancashire;—Leeds, in the West Riding of Yorkshire;—Birmingham and the adjacent parts of the counties of Warwick, Worcester, and Stafford;—and Newcastle, within the Northumberland and Durham coal-basin. In Wales, Merthyr Tydvil and the adjacent part of Glamorganshire, within the limits of the great coal-basin of that district.

(126.) *Industrial occupations.*—Every branch of industry for which the climate and natural resources of the country render it adapted is extensively pursued in England. Until the latter part of the preceding century, agricultural pursuits engaged the attention of the larger proportion of the labouring population, and constituted the characteristic feature of the national industry. But since the establishment and rapid growth of the cotton manufacture, the proportion of the inhabitants engaged in manufacturing and commercial pursuits has been steadily increasing. In England, indeed,

manufactures and commerce are the characteristic pursuits of the labouring population, while in Wales agriculture predominates.

(127.) *Agriculture.*—The proportions of cultivable and uncultivable land in the whole of England and Wales are estimated to be as follows :

<i>In England.</i>			<i>Acres.</i>
Cultivated	-	-	25,632,000
Capable of cultivation	-	-	3,454,000
			<hr/>
			29,086,000
Unproductive land	-	-	3,256,400
			<hr/>
Total	-	-	32,342,400

<i>In Wales.</i>			<i>Acres.</i>
Cultivated	-	-	3,117,000
Capable of cultivation	-	-	530,000
			<hr/>
			3,647,000
Unproductive	-	-	1,105,000
			<hr/>
Total	-	-	4,752,000

The total quantity of cultivable land in England is thus about 29,000,000 acres, estimated to be capable, under a proper system of agriculture, of affording support to a much larger population than the country at present contains.

In England, of the land in cultivation, the proportion under tillage and in gardens is about 10,500,000 acres, and that consisting of meadows, pastures, and marshes, 15,500,000 acres. In Wales, only 900,000 acres are under tillage, and 2,250,000 in pasture.

The counties in which the largest proportion of the inhabitants are engaged in agriculture, are Lincoln, Rutland, Essex, Hereford, Huntingdon, Wilts, Buckingham, Suffolk, Cambridge, the North Riding of York, Bedford, and Berkshire. All these are essentially agricultural counties.

The districts in which *tillage*, or arable husbandry, is pursued, are chiefly in the east and south-east portions of the island, and embrace the counties of Kent, Essex, Suffolk, Norfolk, Hampshire, Berkshire, Bedford, Surrey, Sussex, Hertford, parts of Yorkshire and Lincolnshire, with Durham and Northumberland. In the midland and western counties, the system of husbandry is more a mixture of corn, stock, and dairy-farming.

The principal *dairy* counties (from which butter, cheese, and other farm produce are derived) are Cheshire, Shropshire, Gloucester, Wiltshire, Buckingham, Essex, York, Derby, Cambridge, Dorset, and Devon. The counties most distinguished for breeding and fattening cattle and

sheep are Lincoln, Somerset, Leicester, Northampton, with the districts of Teesdale in Durham, and Cleveland and Holderness in the North and East Ridings of Yorkshire. In Wales, sheep and cattle (including numerous goats) are pastured on the hills, and tillage and dairy husbandry carried on in the valleys.

The agricultural produce of England is very considerable. Wheat forms the principal crop, and constitutes nearly one-half of the total value ; next in importance are oats (and with them beans) : barley and rye are grown to a smaller extent, and the latter is not so common now as formerly. Potatoes, turnips, rape, clover, hops, and garden fruits and vegetables, are raised in very considerable quantities. Wheat is most extensively cultivated in the south-east, barley chiefly in the eastern and midland counties, and oats in the fen districts and also in the north. Hops are chiefly cultivated in the counties of Kent, Surrey, Worcester, and Hereford.

The potatoe is very largely grown in Lancashire, Cumberland, and Cheshire, and the turnip in Norfolk. Rape is much cultivated in Lincolnshire and Cambridgeshire ; both hemp and flax are grown to a small extent in the counties of Lincoln and Suffolk. Garden vegetables are most extensively grown in the metropolitan county, and in the neighbourhood of the large towns in general. Apple, pear, plum, cherry, and apricot trees, with other productions of the orchard, are very generally diffused, but the counties of Hereford and Devon are especially distinguished by the extensive cultivation of the apple, from which great quantities of cider are made.

Husbandry has of late years made great progress, owing chiefly to an extended system of drainage, and the increasing use of artificial manures, including *guano* (which is now brought for the purpose from distant parts of the globe), with town-refuse and sewage, &c. Great advantages have also resulted from the facilities presented by railways for the supply of lime and other materials of agriculture, and also for the transmission of the produce to market. One consequence of this has been the great extension of market-gardening, and the increasing use by the town population of the ordinary vegetable productions of the rural districts.

(128.) *Manufactures.* — Great Britain is unequalled by any country in the world in the immense amount and variety of her manufactured products, the skill and ingenuity of her artizans, and the wonderful contrivances of the machinery by which their labours are assisted.

The great manufactures are those of woven and felted materials, and metals or hardware ; and of these, cotton, wool, and iron, are by far the most important. Next in importance are the manufacture of leather, silk, linen, glass and earthenware, watches and jewellery, paper, and hats. The various manufactures of beer, spirits, soap, candles, with the different branches of the timber and building trades, ship-building, turnery, coach-making, musical instruments,

&c., are also carried on to a considerable extent, and employ the labour of great numbers of people. The manufacture of various articles from India-rubber, and also from the substance called gutta-percha, both of recent introduction, may be referred to as examples of the readiness with which the skilled labour of our artizan population adapts itself to every material presented to the exercise of its industry.

The *cotton manufacture* has its chief seat in Lancashire, Cheshire, and the neighbouring counties of the north midland district. The number of cotton factories exceeds two thousand, considerably more than half of which are situated in Lancashire. The principal places in which the cotton manufacture is carried on are Manchester, Oldham, Bolton, Ashton, Preston, Blackburn, Bury, Middleton, Burnley, and Chorley, all in Lancashire,—Stockport, Hyde, and Duckenfield, in Cheshire,—and Glossop in Derbyshire.

The hosiery manufacture, in which cotton is chiefly used, is principally carried on at Nottingham; the manufacture of woollen stockings at Leicester, and of silk at Derby. In the three counties of Nottingham, Leicester, and Derby, is also a considerable manufacture of cotton into lace and bobbin-net.

The West Riding of Yorkshire is the chief seat of the *woollen manufacture*, which, until the introduction and rapid extension of cotton during the latter half of the last century, was the staple manufacture of England. Leeds, Halifax, Bradford, and Huddersfield, all in the county of York, with Rochdale in Lancashire, are the towns in which it is most extensively carried on. At Norwich, on the east side of the island, is a considerable manufacture of crapes, and in the west of England broad-cloths and kerseymeres are extensively manufactured in the counties of Gloucester and Wilts.

The making of *carpets* is most extensively pursued in the West Riding of York, and at Kidderminster (in the county of Worcester); also at Louth, in Lincolnshire, and elsewhere. What are called Brussels carpets are chiefly made at Kidderminster, and the so-called Kidderminster carpets are mostly the produce of Yorkshire or of Scotland.

The manufacture of flannel and various woollen goods is largely carried on in Wales, chiefly in the county of Montgomery, and to a less extent in the counties of Glamorgan, Caermarthen, Denbigh, and Merioneth. The towns of Welshpool (in Montgomeryshire), and Wrexham (in Denbighshire), are the chief seats of the flannel trade.

The *silk manufacture* is carried on in the metropolis, and also in Cheshire and Lancashire; the district called Spitalfields, in the east of London, with the towns of Macclesfield and Derby, are its principal seats. The silks of England, however, do not equal those of France in point of taste and elegance of design.

The *linen manufacture* is small in extent, and the town of Barnsley, in the West Riding of Yorkshire, is its principal seat.

Besides the above, a great variety of other branches of textile manufacture are pursued, including the working of hemp into sacking, cordage, canvass, &c., rope-making, straw-plaiting, basket-making, wire-

working ; the making of ribbons, fringes, trimmings, the printing of cottons, and numerous others.

The *iron and hardware manufacture* has its chief seats in the south part of Staffordshire and the adjacent portion of Warwick ; in Shropshire, Derbyshire, and the West Riding of York ; and in the county of Glamorgan, in Wales. The principal towns for the making of hardware goods are Birmingham, Dudley, Wolverhampton, Walsall, and Bilston : together with Sheffield, in Yorkshire, which is the chief seat of the cutlery trade. In Wales, Merthyr-Tydvil is the chief seat of this branch of industry.

The *leather manufacture* gives extensive employment. The shoe trade has its chief seat in the counties of Northampton, Stafford, and the metropolis ; that of gloves at Worcester ; of saddlery in London and Staffordshire ; and that of furs in London.

The making of *earthenware* is most extensively carried on in the north of Staffordshire, in a district which from this circumstance is called the Potteries. Porcelain is also made in Derbyshire, at Leeds, and at Worcester, which latter place is especially distinguished for the beauty of its china. *Glass* is made chiefly in the neighbourhood of Newcastle, in London, in Staffordshire, Lancashire, and also at Birmingham, Stourbridge, Bristol, and other places.

The making of *watches and clocks* employs a large number of persons ; London is the principal seat of this branch of industry, which is also extensively pursued at Liverpool, Coventry, and other places.

The manufacture of *silver and plated goods* has its chief seats in London, Birmingham, and Sheffield. In the former place most silver plate is made, in the two latter most of the plated ware. Gold plate is likewise made in London.

The manufacture of *paper* is chiefly carried on in the counties adjacent to the metropolis, which is the great seat of the book trade. In connection with the book trade is the employment of a large number of printers, book-binders, book and print-sellers, type-founders, engravers, ink-makers, map-sellers, &c. &c.

The manufacture of *beer and spirits* is a very considerable branch of industry. The quantity of beer annually brewed is not less than 12,000,000 barrels, and the quantity of spirits made averages from 6,000,000 to 8,000,000 of gallons.

Ship-building is most extensively pursued at London, Liverpool, Sunderland, Plymouth, and Portsmouth ; to a less extent, at Chatham, Hull, Bristol, Whitby, Yarmouth, Newcastle, Whitehaven, and most other ports. Connected with this are numerous boat-builders, block and oar-makers, sail-makers, ship-caulkers, &c.

The counties in which the largest proportion of the inhabitants are engaged in the pursuit of trade and manufactures are Lancashire, the West Riding of Yorkshire, Cheshire, Warwickshire, Nottinghamshire, Middlesex, Leicestershire, Derbyshire, Staffordshire, and Worcester-shire. These are essentially the manufacturing counties. Lancashire is identified with the cotton manufacture, the West Riding of Yorkshire with that of woollen goods, Staffordshire and the adjacent parts of Worcester and Warwick with the making of iron and hardware ; and these three localities represent the great and prominent features in the manufacturing industry of our country.

(129.) *Commerce.*—The foreign commerce of Great Britain is more considerable than that of any other country, and extends to the most distant parts of the globe. It consists for the most part in the *import* of raw materials and tropical produce, and the *export* of manufactured goods,—our ships in many cases carrying back to distant countries in a manufactured state the fabrics originally brought from thence in the condition of native and unworked material. This is especially the case with the cotton trade, the material of which is wholly derived from abroad, and its consumption in a manufactured state largely dependent upon foreign markets. To a less extent, the woollen trade is of similar character, the greater part of the material being derived from abroad, though a considerable quantity is also drawn from the home supply.

Imports.—The largest article of import into Great Britain is raw cotton, chiefly derived from the United States (which supply six-sevenths of the entire quantity), the East Indies, Brazil, and Egypt. The total amount of cotton annually imported into the British Islands is upwards of 9,000,000 cwts.

Wool is imported from the British colonies in Australia, the Cape of Good Hope, and the East Indies. The Australian colonies alone furnish nearly half the entire quantity, and the supply from them is yearly increasing. A considerable quantity is also derived from Germany and South America. The annual import of wool exceeds 120,000,000 lbs. Alpaca and lama wool are imported from South America, and their consumption is on the increase; as is also that of mohair, or goat's wool, from the countries of Western Asia.

Silk is imported, in a raw state, from India, Italy, China, and France, of which China has supplied, within recent years, the largest proportion. The quantity annually imported exceeds 12,000,000 lbs. The import of manufactured silks, chiefly from France, is also considerable.

Flax is imported from Russia and the other countries adjacent to the Baltic, but chiefly for the supply of the Scotch and Irish manufactures. Its consumption in England is inconsiderable. Hemp is largely imported from Russia, and some also from the East Indies.

Hides are imported from Russia, India, the Cape of Good Hope, and South America. Russia has hitherto supplied the larger quantity of these, and also of tallow, which forms a very considerable article of import.

Of timber, the largest proportion (chiefly pine and fir) is derived from Canada and the other British provinces in North America, and also a considerable quantity from Prussia, Russia, and Sweden and Norway. Mahogany is chiefly brought from Honduras, and a variety of ornamental woods, including cedar, boxwood, rosewood, satinwood, &c., from the coasts of tropical Africa, the East Indies, and the countries on the eastern shores of the Mediterranean. Teak wood is imported from India and Western Africa, and is largely used for ship-building.

Of articles of food imported for home consumption, the most important

are *tea* (about 70,000,000lbs. annually), derived almost wholly from China ; *coffee* (57,000,000lbs.), principally from Ceylon, Central America, the West Indies, and Brazil ; and *sugar* (more than 800,000,000lbs.) from the West Indies, Mauritius, Cuba, the East Indies, and Brazil, together with a considerable quantity of molasses or treacle.

Of *spirits* and *wines*, brandy (about 3,000,000 gallons) is imported almost wholly from France,—rum (nearly 7,000,000 gallons), chiefly from Jamaica, and other parts of the West Indies ;—and wine (above 9,000,000 gallons), principally from Spain and Portugal, and, to a much less extent, from the Cape of Good Hope, Sicily, France, Germany, and the Canary Islands.

Of various *oils*, palm-oil is imported from Western Africa,—olive-oil from Italy, Spain, and Turkey,—rape-oil from Holland and Germany,—cocoa-nut oil from the East Indies,—cod-oil from Newfoundland,—spermaceti and various train-oils from the fisheries in the South Pacific Ocean, and the shores of Australia, Newfoundland, and Greenland. A considerable quantity of cod-oil is supplied from Peterhead (Aberdeenshire), and rape-oil is extensively made at Newcastle, South Shields, Liverpool, and other places on our own shores. Oil-seeds (chiefly linseed and rape) constitute within recent years a large item of import from British India. The Northern whale fishery is now less extensive than formerly : that in the Southern Seas is largely on the increase.

The imports of grain embrace *wheat*, (principally from Russia, Prussia, the United States, France, Egypt, Turkey, British North America, Denmark, and Germany),—*barley* and *oats* (from Denmark, Germany and Holland),—*rye* (from Russia),—and *maize*, or Indian corn, principally from the United States, the Turkish provinces on the Danube, Austria, and Hungary. *Rice* is imported from the East and West Indies, and the United States ; *sago* from the East Indies ;—*arrow-root* from the Bermudas, the East and West Indies, and South America.

Of an immense variety of other articles of import, some of the principal are cocoa (South America) ;—pepper, ginger, nutmegs, cinnamon, cloves, and other spices (from the East Indies and Ceylon) ;—dried fruits, including raisins (Spain, Turkey, and other Mediterranean countries), currants (from Greece and the Ionian Islands), and figs (from Turkey) ;—oranges (from the Azores, Spain, Portugal, and Malta) ;—nuts, almonds, &c. (from Spain and Portugal) ;—butter, eggs, and cheese (from Holland, France, and the Channel Islands, and the latter also from the United States) ;—salt beef and pork ;—various medicinal herbs (from Turkey, China, South America, India, and the United States) ;—with pine-apples, yams, and other tropical fruits, from the West Indies.

Tobacco is largely imported (above 40,000,000 lbs. annually), chiefly from the United States ; also from various parts of the East and West Indies.

To the above may be added various dyes and tanning stuffs, including shumac, valonia, indigo, cochineal, gum-arabic, shellac, madder, &c. ;—pot and pearl ashes (from the United States and Canada) ;—barilla (from Spain and other Mediterranean countries) ;—sulphur (from Naples) ;—saltpetre (Peru, India, &c.) ;—together with many others of less importance. The substance called *guano* is largely

imported as a manure, chiefly from the Chincha Islands, on the coast of Peru.

Exports.—The principal articles of export from the British Islands, enumerated in the order of their importance, are manufactured cotton and woollen goods, cotton yarn, wrought iron and steel, hardware and cutlery, linen manufactures, copper and brass goods, coals, earthenware, manufactured silk, beer and ale, leather, glass, tin, salt, dried fish, soap and candles, machinery, stationery, books, &c. The total value of these averages annually above 100,000,000*l.*; of which cotton manufactures and cotton yarn amount to upwards of 40,000,000*l.*; woollen manufactures to above 10,000,000*l.*; linen manufactures to above 5,000,000*l.*; metals (chiefly iron and steel) to above 14,000,000*l.*; and hardwares and cutlery to upwards of 4,000,000*l.* The linen, however, is chiefly the produce of Scotland and Ireland.

Of these articles, the largest quantities are exported to the United States; next in succession, to Australia, the East Indies, Germany, Prussia, Holland, the British colonies in North America, Brazil, Turkey, France, the West Indies, Russia, Italy, China, Spain and Portugal, Chili, Peru, and other South American States; and in a less degree to every country on the face of the globe.

The quantity of *shipping* by which so large a foreign trade is carried on is necessarily very considerable. In 1857, there were, belonging to Britain, above 25,000 sailing vessels, making upwards of 4,000,000 tons, with nearly 200,000 men. Besides these, are above 1800 steam-vessels, the use of which, both for the transit of merchandise and passengers, has very largely increased of late years. Steamers now navigate every part of the North Atlantic and Indian Oceans (including the Mediterranean and Red Seas). More than 400 steam-vessels, with a tonnage exceeding 113,000, belong to the port of London alone.

Of the tonnage of ships, not English, engaged in the foreign trade of Britain, the largest quantity belongs to the United States, and next in order to France, Germany, Denmark, Prussia, Holland, Norway, Russia, Sweden, Belgium, and Italy.

The voyages made in the coasting trade between the various ports of the British Islands amount annually to upwards of 300,000 in number (above 30,000,000 tons), of which the coasting trade of England alone is about 22,000,000 tons.

The principal ports for the foreign trade are Liverpool, London, Hull, Stockton, and Southampton; for the Irish trade, Bristol and Liverpool; and for the coasting trade in general, Newcastle, Gloucester, Plymouth, Whitehaven, and Sunderland. The total tonnage of ships annually entering and leaving the port of London (including the British, foreign, and coasting trade) exceeds 5,000,000; that of Liverpool is upwards of 4,700,000. But the foreign tonnage of Liverpool has for some years past exceeded that of London, and is increasing in a much faster ratio.

(130.) *Internal trade and means of communication.*—The vast internal traffic constantly carried on in every part of the British Islands (and especially in England) is facilitated by the numerous roads which, together with canals and railways, intersect the country in every direction. In England alone are above 2300 miles length of *canals*, and 1800 miles river navigation, so that a most extensive system of water communication is formed between the different parts of this country. The first

canal formed in England was completed in the year 1760. By means of these artificial channels, the opposite shores of the island are united, and the waters of all the principal rivers connected one with another. Thus the basin of the Humber is united to that of the Mersey by canals which in three different places cross the watershed of the Pennine Chain (the Leeds and Liverpool, the Rochdale, and the Huddersfield Canals), and also by the Grand Trunk Canal, which unites the waters of the Trent and the Mersey. From the last-mentioned canal, again, a similar line of communication extends through the middle of the country, past Birmingham, to the Thames, at London, and also, by the valley of the Cherwell, to the same river at Oxford. The Thames and Severn Canal connects the waters of those rivers, crossing the line of the Cotswold Hills; and the Kennet and Avon Canal unites the Kennet (a tributary of the Thames) with the lower Avon, which flows into the Bristol Channel. Others, again, extend from the basin of the Thames to the rivers of the south coast. Although, since the introduction of railways, of less relative importance than formerly, the canal and river navigation is still largely used for the conveyance of heavy goods.

Railways.—The first railway constructed expressly with a view to passenger traffic, and worked by locomotive engines, was that between the towns of Liverpool and Manchester, (a distance of thirty-one miles), opened in 1830. Within the period that has since elapsed, this mode of communication has increased to an astonishing extent, and at the present time the total length of the railways open for traffic in England and Wales is nearly 7000 miles, besides many lines in process of construction. Altogether, England has a more extensive system of railway communication than any other European country, excepting Belgium.

Since the formation of railways, the internal traffic of the country has vastly increased, owing to the greatly increased rate of speed with which journeys are performed, and the superior economy of this mode of conveyance as compared with that of coach travelling. Places which were formerly distant a journey of two or three days and nights, can now be reached within a single period of daylight, and all the principal towns of England are brought within a journey of from four to six hours from the metropolis.

The recent introduction of the electric telegraph upon the principal lines of railway has already exerted a powerful and beneficial influence upon the commercial and social relations of the country. By its means, the prices of every market, the arrival of packets, and the signalling of ships, are now known immediately in all the great seats of trade; and information of the commission of crime is transmitted from town to town with unerring certainty and instantaneous rapidity.

(131.) *National divisions.*—The fifty-two counties into which England and Wales are divided have been already mentioned (Art. 105.). Most of the counties are subdivided into *hundreds*, and these again into parishes. Yorkshire is divided into three ridings, the subdivisions of which are called *wapentakes*. Kent has an intermediate division into *lathes*, and Sussex into *rapes*, each of which are subdivided

into hundreds. The counties of Northumberland, Cumberland, Westmoreland, Durham, and Lancashire, are divided into *wards*. In Lincolnshire, some of the divisions are called wapentakes, and others hundreds. The entire number of parishes is 8511 in England, and 869 in Wales.

Another division of the country, of recent introduction, is that into poor-law unions, the names of which are generally derived from one of the principal market-towns within their circuit. For political purposes, also, all the larger English counties have been separated into two divisions, distinguished either as a northern and southern, or an eastern and western, division.

The *ecclesiastical* division of England and Wales is into two archiepiscopal provinces (those of Canterbury and York), which embrace twenty-six bishoprics, only six of which are within the province of York. Each bishopric is subdivided into deaneries, and each deanery into parishes, which latter is both an ecclesiastical and a civil division.

Besides the above, there are also local divisions in various parts of the country, the limits of which are dependent, for the most part, upon the natural features of the district. They form, indeed, in many cases, distinct geographical divisions, and indicate the seat of particular classes of the population, and peculiar industrial pursuits. Thus, the low district in the south-east part of Lincolnshire, adjacent to the shores of the Wash, is called *Holland*, which country it resembles in physical conformation; and a tract in the north-west part of the same county is distinguished as the *Isle of Axholme*, a name the derivation of which implies its being a river-island, surrounded by the waters of the Trent, the ancient course of the Don, and the adjacent streams. The south-east part of Yorkshire forms the peninsula of *Holderness*, an extensive grazing district; the north part of Cambridgeshire constitutes the *Isle of Ely*, which has a jurisdiction separate from the rest of the county. Again, the north-western extremity of Derbyshire is distinguished as the *Peakland*, a hilly district, — part of the North Riding of Yorkshire is called *Cleveland*, and so on.

The English counties vary greatly in size. The largest, Yorkshire, has an area of 5836 square miles, — the next in size, Lincoln, 2611, — the third, Devon, 2585, — and Norfolk, the fourth in order of magnitude, 2024 square miles. Rutlandshire, the smallest county, is only 149, and Middlesex 282, square miles.

The largest of the Welsh counties is Caermarthen, 974 square miles, and the smallest, Flintshire, 144 square miles.

(132.) *Towns and important places.* — England contains a greater number of large towns than any other country in the world. London, the metropolis of the empire, has at present a population of nearly two millions and a half: Liverpool and Manchester have each upwards of 300,000, and Birmingham more than 200,000, inhabitants. Leeds nearly approaches the latter number. Bristol, Sheffield, Newcastle, and Plymouth, each exceeds 100,000; Sunderland, Hull, Preston, Bolton, Oldham, Nottingham, Leicester, Norwich,

Portsmouth, and Bath, have between 50,000 and 100,000. A great number of other places have from 20,000 to 50,000 inhabitants.

All the places above mentioned are situated within the manufacturing districts. In the strictly agricultural counties the towns are generally small, the number of inhabitants varying from 2000 to 8000 or 10,000.

In the following Tables, the counties are recapitulated, in the order of their respective situation, with the names of the principal towns in each. The figures attached to the towns express the population, according to the census of 1851.* The name of the county-town is distinguished by italics.

ENGLAND.

SIX NORTHERN COUNTIES, of which Northumberland, Durham, Lancashire, and the West Riding of Yorkshire, are manufacturing, trading, and mining counties. Cumberland, Westmoreland, and the East and North Ridings of Yorkshire, are chiefly agricultural. In Cumberland, however, some manufactures (principally cotton) are carried on at Carlisle, and mining at Whitehaven and elsewhere. The northern portion of Lancashire, called Furness, is a detached district, belonging to the group of the Cumbrian Mountains.

Counties.	Towns.
Northumberland -	<i>Newcastle</i> (with Gateshead), 113,000—North Shields and Tyne-mouth, 29,000—Berwick-upon-Tweed, 15,000—Morpeth, 4000—Alnwick, 7000—Hexham, 4800.
Durham - - - -	Sunderland (with Wearmouth), 64,000— <i>Durham</i> , 14,000—Darlington, 11,000—Stockton, 9800—Hartlepool, 9000—South Shields.
Cumberland - - -	<i>Carlisle</i> , 26,000—Whitehaven, 19,000—Workington, 7000—Penrith, 6000—Cockermouth, 7200—Maryport, 5700—Keswick, 2600.
Westmoreland - -	Kendal, 11,800— <i>Appleby</i> , 1400.
Yorkshire:	
West Riding - -	Leeds, 172,000—Sheffield, 135,000—Bradford, 52,000—York, 36,000—Huddersfield, 30,000—Halifax, 33,000—Wakefield, 22,000—Saddleworth, 18,000—Barnsley, 18,000—Dewsbury, 10,000—Doncaster, 12,000—Rotherham, 6000—Ripon, 6000—Pontefract, 5000—Harrowgate, 3700—Goole, 4700.
North Riding -	Scarborough, 13,000—Whitby, 11,000—Malton, 7600—Richmond, 4000—North Allerton, 5000.
East Riding - -	Hull, 85,000—Beverley, 9000—Bridlington, 6800.
Lancashire - - -	<i>Manchester</i> (with Salford), 379,000—Liverpool, 376,000—Preston, 69,000—Bolton, 59,000—Oldham, 53,000—Blackburn, 46,000—Wigan, 32,000—Rochdale, 29,000—Ashton-under-Lyne, 30,000—Bury, 25,000—Warrington, 23,000—Staley Bridge, 20,000—Burnley, 20,000—Colne, 15,000— <i>Lancaster</i> , 14,600—Chorley, 13,000—Middleton, 7700—Ulverston, 6400—Fleetwood, 4000.

* Round numbers are used,—in the case of the larger towns all figures which express less than thousands, and in the smaller all expressing less than hundreds, being disregarded. In stating the populations of the towns as a whole, portions are, in a few cases, added, which do not belong to the counties under which they are enumerated. Thus, Gateshead, a suburb of Newcastle, is situated in the county of Durham, as portions of London are situated in the counties of Surrey and Kent, though the larger portion is within the limits of Middlesex.

SIX WESTERN COUNTIES, of which Cheshire, Shropshire, Monmouthshire, and Gloucestershire, are of mixed character — in part manufacturing and mining, and in part agricultural counties. The remaining two, Hereford and Somerset, are entirely agricultural.

Counties.	Towns.
Cheshire - - -	Stockport, 39,000 — Macclesfield, 29,000 — <i>Chester</i> , 26,000 — Birkenhead, 24,000 — Congleton, 10,000 — Nantwich, 5800 — Middlewich, 4700 — Northwich, 1300.
Shropshire - - -	<i>Shrewsbury</i> , 22,000 — Madeley, 8000 — Bridgenorth, 6200 — Wellington, 6000 — Ludlow, 5000 — Oswestry, 4800.
Herefordshire - -	<i>Hereford</i> , 12,000 — Leominster, 5000 — Ledbury, 3000 — Ross, 2600.
Monmouthshire -	Newport, 19,000 — <i>Monmouth</i> , 5700 — Chepstow, 4000 — Abergavenny, 5500 — Pontypool, 3700.
Gloucestershire -	Bristol, 140,000 — Cheltenham, 35,000 — <i>Gloucester</i> , 18,500 — Stroud, 9000 — Cirencester, 6000 — Tewkesbury, 5800.
Somersetshire - -	<i>Bath</i> , 54,000 — Taunton, 14,000 — Frome, 11,800 — Bridgewater, 10,500 — Wells, 7000 — Yeovil, 7000 — Wellington, 5600 — Shepton Mallet, 4000 — Glastonbury, 3300.

FOURTEEN MIDLAND COUNTIES, of which the first five (Stafford, Derby, Nottingham, Leicester, and Warwick) are principally manufacturing counties : — Oxford, Buckingham, Hertford, Bedford, Huntingdon, Northampton, and Rutland, agricultural. Worcestershire is partly manufacturing and partly agricultural — chiefly the latter ; and Middlesex, which contains the metropolis, is the great seat of trade.

Counties.	Towns.
Staffordshire - -	Wolverhampton, 50,000 — West Bromwich, 35,000 — Walsall, 25,000 — Bilston, 23,500 — Wednesbury, 12,000 — <i>Stafford</i> , 11,800 — Newcastle-under-Lyne, 10,000 — Leek, 13,000 — Lichfield, 7000 — Burton-on-Trent, 9000 — Tamworth, 4000 — Stoke-upon-Trent.
Derbyshire - - -	<i>Derby</i> , 40,000 — Chesterfield, 11,000 — Belper, 10,000 — Wirksworth, 2600 — Matlock, 4000 — Buxton, 1200.
Nottinghamshire -	<i>Nottingham</i> , 75,000 — Newark, 11,000 — Mansfield, 10,000 — Worksop, 7000 — East Retford, 3000.
Leicestershire - -	<i>Leicester</i> , 60,000 — Loughborough, 10,000 — Hinckley, 7000 — Ashby-de-la-Zouch, 6000 — Melton Mowbray, 4000 — Bosworth.
Warwickshire - -	Birmingham, 233,000 — Coventry, 35,000 — Leamington, 15,000 — <i>Warwick</i> , 11,000 — Nuneaton, 4800 — Rugby, 6000 — Stratford-on-Avon, 3300.
Worcestershire -	Dudley, 38,000 — <i>Worcester</i> , 27,000 — Kidderminster, 18,000 — Bromsgrove, 10,000 — Stourbridge, 7800 — Evesham, 4600 — Stourport, 3000 — Droitwich, 3000 — Redditch, 4800.
Oxfordshire - - -	<i>Oxford</i> , 28,000 — Banbury, 7000 — Witney, 3000 — Henley-on-Thames, 3600 — Woodstock, 1400.
Buckinghamshire -	Aylesbury, 6000 — Great Marlow, 4480 — <i>Buckingham</i> , 4000 — Newport Pagnell, 3500 — Eton.
Middlesex - - -	<i>London</i> (including Westminster and Southwark), 2,360,000 — Brentford, 8000 — Uxbridge, 3200 — Staines, 2500 — Harrow, 1300.
Hertfordshire - -	<i>Hertford</i> , 6600 — St. Alban's, 7000 — Ware, 5000 — Watford, 3800 — Hitchin, 5600 — Barnet, 3400.
Bedfordshire - -	<i>Bedford</i> , 11,600 — Luton, 10,600 — Leighton Buzzard, 4000 — Biggleswade, 4000 — Dunstable, 3500 — Ampthill, 2000 — Woburn, 2000.
Huntingdonshire -	<i>Huntingdon</i> , 3800 — Ramsay, 2600 — St. Ives, 3500 — St. Neots, 3100.
Northamptonshire -	<i>Northampton</i> , 26,000 — Peterborough, 8600 — Wellingborough, 5000 — Daventry, 4000.
Rutlandshire - -	<i>Oakham</i> , 3000 — Uppingham, 2000.

FIVE EASTERN COUNTIES, all wholly agricultural, excepting Norfolk, in which some manufacture of woollen goods is pursued in and around Norwich.

Counties.	Towns.
Lincolnshire . .	<i>Lincoln</i> , 20,000 — <i>Boston</i> , 14,700 — <i>Louth</i> , 10,000 — <i>Grimsby</i> , 9000 — <i>Gainsborough</i> , 7500 — <i>Stamford</i> , 9000.
Cambridgeshire .	<i>Cambridge</i> , 27,800 — <i>Wisbeach</i> , 12,000 — <i>Ely</i> , 6000 — <i>March</i> , 4000 — <i>Newmarket</i> , 3300.
Norfolk	<i>Norwich</i> , 68,000 — <i>Yarmouth</i> , 30,000 — <i>King's Lynn</i> (or <i>Lynn Regis</i>), 19,000 — <i>Wymondham</i> , 5000 — <i>Thetford</i> , 4000 — <i>East Dereham</i> , 3800 — <i>Wells</i> , 4700 — <i>Swaffham</i> , 3800 — <i>Holt</i> , 1600.
Suffolk	<i>Ipswich</i> , 32,000 — <i>Bury St. Edmund's</i> , 13,900 — <i>Sudbury</i> , 6000 — <i>Woodbridge</i> , 5000 — <i>Bungay</i> , 4500 — <i>Lowestoft</i> , 6700.
Essex	<i>Colchester</i> , 19,000 — <i>Chelmsford</i> , 6000 — <i>Braintree</i> , 4300 — <i>Malton</i> , 5000 — <i>Harwich</i> , 4400.

NINE SOUTHERN COUNTIES, all agricultural, excepting Devonshire and Cornwall, which are mining counties, and Wiltshire, in a portion of which the woollen manufacture is carried on.

Counties.	Towns.
Kent	<i>Chatham</i> (including <i>Rochester</i> , 14,900), 43,000 — <i>Woolwich</i> , 32,000 — <i>Dover</i> , 22,000 — <i>Maidstone</i> , 20,000 — <i>Canterbury</i> , 18,000 — <i>Gravesend</i> , 16,000 — <i>Ramsgate</i> , 12,000 — <i>Margate</i> , 9000 — <i>Deal</i> , 7000 — <i>Sheerness</i> , 8600 — <i>Tunbridge Wells</i> , 10,000 — <i>Faversham</i> , 4600 — <i>Dartford</i> , 5600 — <i>Folkestone</i> , 6700 — <i>Ashford</i> , 5000 — <i>Sandwich</i> , 2900 — <i>Hythe</i> , 2800 — <i>New Romney</i> , 1000.
Surrey	<i>Southwark</i> (included in <i>London</i>) — <i>Croydon</i> , 16,000 — <i>Kingston</i> , 8000 — <i>Richmond</i> , 9000 — <i>Guildford</i> , 6700 — <i>Epsom</i> , 3500.
Sussex	<i>Brighton</i> , 65,000 — <i>Hastings</i> , 17,000 — <i>Lewes</i> , 9000 — <i>Chichester</i> , 8500 — <i>Horsham</i> , 6000 — <i>Worthing</i> , 5300 — <i>Rye</i> , 4000 — <i>Bognor</i> , 3000 — <i>Eastbourne</i> , 3000 — <i>Winchelsea</i> , 700.
Berkshire	<i>Reading</i> , 21,000 — <i>Windsor</i> (including <i>Eton</i>), 17,000 — <i>Newbury</i> , 6400 — <i>Abingdon</i> , 6000 — <i>Maidenhead</i> , 3600 — <i>Wantage</i> , 3000.
Hampshire	<i>Portsmouth</i> (including <i>Portsea</i> and <i>Gosport</i>), 79,000 — <i>Southampton</i> , 35,000 — <i>Winchester</i> , 13,700 — <i>Andover</i> , 5000 — <i>Basingstoke</i> , 4000 — <i>Lymington</i> , 5000.
Isle of Wight . .	<i>Newport</i> , 4000 — <i>Ryde</i> , 7000 — <i>Cowes</i> , 4700.
Wiltshire	<i>Trowbridge</i> , 11,000 — <i>Salisbury</i> , 11,000 — <i>Devizes</i> , 6500 — <i>Warminster</i> , 4200 — <i>Bradford</i> , 9000 — <i>Westbury</i> , 7000 — <i>Marlborough</i> , 3900.
Dorsetshire . . .	<i>Weymouth</i> (with <i>Melcombe Regis</i>), 9400 — <i>Dorchester</i> , 6400 — <i>Poole</i> , 9000 — <i>Bridport</i> , 4800 — <i>Blandford-Forum</i> , 3900 — <i>Wareham</i> , 2700.
Devonshire	<i>Plymouth</i> (with <i>Devonport</i>), 102,000 — <i>Exeter</i> , 33,000 — <i>Barnstaple</i> , 11,000 — <i>Tiverton</i> , 11,000 — <i>Tavistock</i> , 8000 — <i>Brixham</i> , 8900 — <i>Bideford</i> , 5700 — <i>Dartmouth</i> , 4500 — <i>Exmouth</i> , 5000 — <i>Teignmouth</i> , 5000 — <i>Totness</i> , 4400 — <i>South Molton</i> , 4500 — <i>Torquay</i> , 7900 — <i>Honiton</i> , 3900 — <i>Axminster</i> , 2700.
Cornwall	<i>Truro</i> , 10,700 — <i>Penzance</i> , 11,000 — <i>St. Austell</i> , 3500 — <i>Camborne</i> , 6500 — <i>Redruth</i> , 7000 — <i>Falmouth</i> , 9000 — <i>St. Agnes</i> , 6600 — <i>St. Ives</i> , 6500 — <i>Bodmin</i> , 4200 — <i>Launceston</i> , 3400.

WALES.

SIX COUNTIES IN NORTH WALES, all of which are agricultural, and Flintshire and Anglesey also mineral, counties.

Counties.	Towns.
Anglesey	<i>Amlwch</i> , 5800 — <i>Holyhead</i> , 5600 — <i>Braemar</i> , 2700.
Caernarvonshire .	<i>Caernarvon</i> , 8700 — <i>Bangor</i> , 9000 — <i>Conway</i> , 2000.
Denbighshire . . .	<i>Denbigh</i> , 5500 — <i>Wrexham</i> , 6700 — <i>Ruthin</i> , 3200 — <i>Holt</i> , 1000.
Flintshire	<i>Holywell</i> , 5800 — <i>Mold</i> , 3500 — <i>Flint</i> , 3200 — <i>St. Asaph</i> , 2000.
Merionethshire . .	<i>Dolgelly</i> , 2000 — <i>Bala</i> , 1200.
Montgomeryshire .	<i>Newtown</i> , 6500 — <i>Welshpool</i> , 6500 — <i>Llanidloes</i> , 3000 — <i>Montgomery</i> , 1200.

SIX COUNTIES IN SOUTH WALES, of which Glamorgan is chiefly a mining and manufacturing county, all the remainder agricultural.

Counties.	Towns.
Cardiganshire - -	Aberystwith, 5200 — <i>Cardigan</i> , 3800.
Radnorshire - -	<i>New Radnor</i> , 500 — Presteign, 2000 — Knighton, 1500.
Brecknockshire -	<i>Brecon</i> or <i>Brecknock</i> , 5700 — Hay, 1900 — Builth, 1100.
Glamorganshire -	Merthyr Tydvil, 46,000 — Swansea, 21,000 — <i>Cardiff</i> , 18,000 — Neath, 5800 — Llandaff, 1800.
Caermarthenshire -	<i>Caermarthen</i> , 10,500 — Llanelly, 8700 — Llandovery, 1900 — Llandeilo, 5700.
Pembrokeshire -	<i>Pembroke</i> , 10,000 — Haverford West, 6500 — Tenby, 3000 — St. David's, 2400 — Milford, 2800.

(133.) London, the metropolis of the British empire, is the most important commercial city in the world, and probably exceeds in population any other city, either of ancient or modern times. Its more populous portion extends continuously over a space of nearly eight miles from east to west, and of between five and six miles in the opposite direction, embracing an area of little less than fifty square miles. Including its suburban districts, the area of London is more than double that magnitude.

The larger portion of London is situated on the north side of the Thames, in the county of Middlesex; the portion on the south of the Thames, in the county of Surrey, extends eastward into Kent, and unites itself to the towns of Deptford and Greenwich. The city of London, however, properly so called, is confined to a small portion of the metropolis, situated entirely on the north side of the river. That portion of the Thames which lies below London Bridge forms the harbour and port of London, belonging to which are extensive docks for the reception of shipping, principally situated on the north side of the river.

London is distinguished, on the whole, rather by works of utility than of ornament. Of its public buildings, two of the most striking and important are the cathedral church of St. Paul, and the collegiate church of St. Peter—generally known as Westminster Abbey. Perhaps the next in interest and importance to these are the Houses of Parliament, at present in progress of completion, and the British Museum: besides which are a great number of others, as the Bank, the General Post Office, Royal Exchange, &c., too numerous to be mentioned here.

The Thames at London is crossed by seven bridges, one of which (the Hungerford Suspension Bridge) is for the use of foot passengers only. Two (Southwark and Vauxhall Bridges) are of cast iron,—the Hungerford Bridge consists of a platform suspended from iron chains,—and the remainder are of stone. The longest is Waterloo Bridge, which measures 1326 feet, and forms a perfectly level roadway, constructed upon nine elliptical arches of equal dimensions.

Greenwich, which adjoins the metropolis on its eastern side, contains the National Observatory, from the meridian of which English geographers (and also those of many foreign nations) estimate the degrees of longitude. Greenwich likewise possesses a magnificent hospital, used as an asylum

for decayed seamen, more than 2700 of whom are resident within its walls, besides a large number of out-pensioners attached to the establishment. A similar institution for the reception of decayed members of the army exists at *Chelsea*, on the north side of the Thames, towards the western extremity of the metropolis.

(134.) The principal manufacturing towns have been mentioned in Art. 128., in speaking of the various branches of industry of which they are the seat. The more important of them are here briefly noticed.

Manchester, the second city in the British Islands in population, is situated principally on the east bank of the river Irwell, a tributary of the Mersey. The numerous cotton-mills impart the distinguishing feature to the town. Every branch of the cotton manufacture is carried on to an enormous extent; iron and brass foundries are also numerous, as well as chemical works, and numberless others required for the supply of the wants of a large population. *Salford*, on the west side of the Irwell, has the privileges of a separate borough, but is connected with Manchester by five bridges, and the two form together one immense and continuous city. Manchester is the centre of an extensive system of canals and railways, and within a short distance are many large and populous manufacturing towns, nearly all devoted to the cotton trade (Art. 128.).

Liverpool, 31 miles west by south of Manchester, is the great port of the cotton manufacturing district, and the emporium of an immense trade carried on with every part of the globe. It lies on the north-east side of the Mersey, near the mouth of the river, and extends more than 3 miles in length along its banks,—throughout nearly the whole of which space are magnificent docks. On the opposite side of the Mersey is *Birkenhead*, a town of recent origin, at which extensive docks have been constructed.

Leeds, the principal seat of the woollen manufacture, is situated on the banks of the river Aire, 23 miles south-west of York, and on the north-eastern border of a great manufacturing and coal-mining district. The greater part of the town lies on the north side of the river. Besides the production of woollen goods, Leeds has also many large establishments for flax-spinning, together with glass-houses, potteries, and factories for making steam-engines and other machinery. The country to the east and north of Leeds is wholly agricultural, but to the west and south-west it is covered with populous towns and villages, which resound with the noise of the steam-engine. Most of these are engaged in various branches of the woollen manufacture (Art. 128.). *Bradford* (9 miles west of Leeds, and a short distance to the south of the Aire) shares the importance of Leeds, and has become, within recent years, the centre of the manufacture of stuff and worsted fabrics, while Leeds is the more special seat of the woollen cloth trade.

York, situated on the banks of the Ouse, in the midst of the beautiful plain distinguished by its name, is the second city in the kingdom in point of rank, though surpassed by many others in size and population. It represents the Eboracum of the Roman period. York is distinguished for its magnificent minster or cathedral, one of the finest Gothic edifices in the world. It has also an ancient castle (now used as a prison), and the former walls and gates of the city are still standing. York forms a sort of metropolis for the northern counties, and is also a county of itself. A few miles west of the city is Marston Moor, the scene of one of

the principal engagements between the armies of Charles I. and the Parliament : further to the south-west is the village of Towton, where a sanguinary battle was fought during the wars of the Roses.

Sheffield (45 miles south-west of York, and 178 by railway from London) is situated at the confluence of the little river Sheaf with the Don. It dates from the Saxon period, and has been celebrated from very early times for the manufacture of cutlery, every branch of industry connected with which is largely carried on (Art. 128.). Plated and metal goods are also made on a scale of great extent.

Hull (properly *Kingston-upon-Hull*), 34 miles south-east of York, stands on the north side of the estuary of the Humber, at the mouth of the small river Hull. It is one of the principal seaports in the kingdom, and possesses a range of extensive docks and warehouses, with ship-building yards and every facility for extensive commercial undertakings. Hull is the principal seat of the Baltic trade, and has also commercial relations with other parts of Europe, as well as with the West Indies and the countries of South America.

Newcastle, on the north bank of the river Tyne, 12 miles above its mouth, has a very extensive trade, chiefly in the shipment of coals to London and other markets, besides considerable foreign commerce. Several important manufactures are carried on, the principal of which are glass and iron, with copperas, vitriol, white-lead, and various other chemical works. Ship-building is also carried on to a great extent, both here and at various ports on the adjacent coast. At the mouth of the Tyne are the adjacent towns of *North Shields* and *Tynemouth*, both on the north bank of the river, and *South Shields*, on the south bank, all busy seats of trade and industry. At the mouth of the Wear, a few miles to the southward, are the adjoining towns of *Sunderland* and *Bishop Wearmouth*, on the south side of the river, and *Monk Wearmouth* on the north bank, the three together forming one great town, connected by a stupendous iron bridge, of a single arch, 236 feet in span, and of sufficient height to allow vessels of 400 tons burthen to pass beneath. The tract of country which adjoins the mouths of the Tyne and the Wear thus exhibits, within a few miles of one another, several important manufacturing and commercial towns, which form together a scene of active industry not surpassed in any part of the world.

Birmingham, the great seat of the hardware manufacture, lies nearly in the centre of England. It is watered by the small river Tame, and its branch the Rea (tributaries of the Trent), but these are insignificant streams. It is, however, the centre of an extensive canal and railway communication with all parts of the country. Every description of steel and iron goods are extensively made, from the largest description of fire-arms to the smallest metallic articles required for use or ornament ; as pins, steel pens, buttons, buckles, nails, screws, and an immense variety of others. Both plated and japanned ware are also manufactured to a great extent, and the quantity of silver consumed in the making of pencil-cases, watch-chains, thimbles, and similar articles, is very great. Glass-making is also extensively carried on.

Coventry, 18 miles to the south-east of Birmingham, is the principal seat of the ribbon manufacture : watch-making is also extensively carried on. The small town of *Stratford-on-Avon*, 20 miles south by east of Birmingham, is distinguished as the birthplace of Shakspeare.

Within a short distance to the north-west of Birmingham are the populous towns of *Dudley*, *Wolverhampton*, *Walsall*, *Bilston*, *Wednesbury*, and many others, all of them the seats of various branches of the hardware trade, and situated in the midst of canals, coal-mines, and iron-works. Further to the westward, and adjacent to the east bank of the Severn, is the populous district of Coalbrook Dale (within the limits of the Shropshire coal-field), which is the seat of extensive iron-works, and presents a busy scene of manufacturing industry. Coalbrook Dale is properly the name of a deep ravine, lying between two large and well-wooded hills, and in the neighbourhood of which are several considerable towns and villages.

In the north part of Staffordshire, adjacent to the town of Stoke-upon-Trent (38 miles north by west of Birmingham), is the district of the *Potteries* (Art. 128.), which occupies an extent of about 10 square miles. Within this space are several populous towns and villages, in which almost the sole employment is the manufacture of porcelain, earthenware, and other wares in which clay forms the principal material. The principal of these, besides Stoke-upon-Trent, are Longton, Shelton, Burslem, Hanley, and Lane End, all of which, though formerly distinct places, are now so nearly united as to have almost the connected appearance of one large town. The total population of the Potteries is upwards of seventy thousand.

The towns of *Derby*, *Nottingham*, and *Leicester*, have been already mentioned as the chief seats of the hosiery and lace manufactures (Art. 128). *Derby* is situated on the river Derwent, a few miles above its junction with the Trent; it has largely increased of late years, since its becoming the centre of an extensive railway system by which it is connected with all the central and northern parts of England. *Nottingham* is situated on the north bank of the Trent, and *Leicester* on the east side of the Soar, one of the chief affluents of that stream. About 10 miles west of Leicester is *Market Bosworth*, near which was fought, in 1485, the battle which terminated the wars of the Roses; and 18 miles to the south-east (in Northamptonshire) is *Naseby*, the scene of the defeat of Charles I. by the Parliamentary forces in 1645.

Norwich, a cathedral city, and the capital of the eastern counties, stands on both banks of the river Wensum, a short distance above its junction with the Yare. Norwich existed in early Saxon times, and has been noted for the manufacture of woollen goods ever since the time of Henry I., by whom a colony of Flemings were settled in the neighbourhood, and this branch of industry introduced. Shawls, crapes, and various fabrics of silk and woollen, are extensively made here, and the town is also the centre of a great agricultural traffic.

Bristol, next in importance to London and Liverpool in the list of the English sea-ports, lies chiefly on the north bank of the Lower Avon, about 8 miles above the mouth of the river, and at the place where it is joined by the small stream of the Frome. A small part of the town is on the south of the river, within the limits of Somersetshire, but Bristol forms a county of itself. The public works connected with the port of Bristol are very extensive, and embrace spacious quays, with magnificent docks for the accommodation of the largest-sized vessels. The foreign trade of Bristol is less extensive now than formerly; its coasting and Irish trade is very considerable. Bristol has also considerable

manufactures of glass; sugar-refineries; iron, brass, and other metal works; floor-cloth, earthenware, and a variety of other articles. The whole circuit of the city is nearly ten miles, and for a further distance of six miles round is a busy manufacturing population.

(135.) The principal *sea-ports* of England and Wales are enumerated in the following list, beginning at the northern extremity of the country, and proceeding in order round the island.

On the *east coast*, between the borders of Scotland and the mouth of the Humber, are—*Berwick* (at mouth of river Tweed), *Newcastle* (on the river Tyne), *Shields* and *Tynemouth* (mouth of ditto), *Sunderland* (mouth of river Wear), *Stockton* (on the river Tees), *Middlesborough* and *Port Clarence* (mouth of ditto), *Whitby* (mouth of river Esk), *Scarborough* (north of Filey Point), *Bridlington* (south of Flamborough Head), *Hull* (on river Humber), and *Goole* (at junction of river Don with Yorkshire Ouse).

Between the Humber and the estuary of the Thames are—*Grimsby* (south side of entrance to Humber), *Boston* (on river Witham), *Lynn* (mouth of river Ouse), *Yarmouth* (mouth of river Yare), *Lowestoft* (easternmost point of England), *Ipswich* (on river Orwell), *Harwich* (mouth of river Stour), *Colchester* (on river Colne), and *London* (on river Thames).

Between the mouth of the Thames and the South Foreland of Kent are—*Rochester* (on river Medway), *Sheerness* (Isle of Sheppy), *Faversham* (south side of estuary of Thames, near Isle of Sheppy), *Whitstable* (north coast of Kent), *Margate* (north side of Isle of Thanet), *Ramsgate* (east coast of ditto), and *Deal* (near South Foreland).

On the *south coast*,—*Dover* (nearest point to opposite coast of France), *Folkestone*, *Rye* (mouth of river Rother), *Hastings*, *Brighton*, *Shoreham* (mouth of river Adur), *Portsmouth* (opposite Isle of Wight), *Southampton* (at head of Southampton Water), *Cowes* (north coast of Isle of Wight), *Poole*, *Weymouth* (mouth of river Way), *Exeter* (on river Exe), *Dartmouth* (river Dart), *Plymouth*, *Fowey* (mouth of river Fowey, Cornwall), *Falmouth* (river Fal), and *Penzance* (west side of Mount's Bay).

On the *west coast*, between the Land's End and the mouth of the Severn, are—*St. Ives* (west coast of Cornwall), *Padstow* (mouth of river Alan, Cornwall), *Bideford* (mouth of river Torridge), *Barnstaple* (on river Tawe), *Ilfracombe* (entrance of Bristol Channel), *Bridgewater* (on the river Parret), *Bristol* (river Avon), and *Gloucester* (river Severn).

Between the mouth of the Severn and the estuary of the Mersey, are—*Chepstow* (mouth of river Wye), *Newport* (mouth of river Usk), *Cardiff* (mouth of river Taff), *Swansea* (Swansea Bay), *Milford* (Milford Haven), *Cardigan* (on river Teify), *Aberystwith* (on river Rheidiol), *Holyhead* (on Holy Island, near Isle of Anglesey), *Beaumaris* (on Menai Strait), *Chester* (on river Dee), and *Birkenhead* (west side of river Mersey).

Between the mouth of the Mersey and the head of the Solway Frith are—*Liverpool* (east side of Mersey), *Fleetwood* (mouth of river Wyre), *Lancaster* (on river Lane), *Ulverston* (on Morecambe Bay), *Whitehaven*

(near St. Bees Head), *Workington* (mouth of river Derwent), *Maryport* (mouth of river Ellen), and *Carlisle* (on the river Eden).

Chatham (adjacent to Rochester, Kent), *Portsmouth* (Hampshire), and *Plymouth* (Devon), are the three great naval arsenals, and have extensive dockyards and other establishments, with every convenience for the supply of stores to the navy. *Woodwich* is the great dépôt for artillery, and has a royal arsenal, which contains foundries and establishments for the manufacture of various engineering and military stores.

The towns of *Sandwich*, *Deal*, *Dover*, *Hythe*, *New Romney*, *Rye*, *Winchelsea*, and *Hastings*, are distinguished as cinque ports, and possess certain peculiar privileges, granted at a very early period, from the importance of their situation with respect to the shores of the continent. They were originally five in number (whence the name), but three others were subsequently added. *Dover*, *Deal*, and *Hastings*, are the only ones of any importance in the present day. *Deal* is situated on that part of the coast which faces the channel of the Downs, a great rendezvous for shipping. *Dover*, at the point of the coast which lies nearest to the European mainland, has always been a great place of embarkation for continental countries; but is partially superseded in this respect by *Folkestone* (six miles to the westward), between which port and Boulogne there is frequent and rapid communication by steam. *Dover* is celebrated for its ancient castle, an extensive pile of buildings situated on a height which overlooks the town; these are of various ages,—some of Roman times. The direct distance between *Dover* and *Calais* is only 21 miles, and the white cliffs of the opposite coast are distinctly visible from either side of the channel.

Hastings is a fishing-town of some importance; seven miles to the north-west is the small town of *Battle*, built upon the ground on which the battle of *Hastings* was fought, in 1066.

Southampton (79 miles distant from London by railway) has extensive docks, and is the seat of a great foreign trade, especially with Spain, Portugal, and the Mediterranean countries in general. It is also the chief station for the Mediterranean and the West India steam-packets.

Winchester (the *Venta Belgarum* of the Roman period, and the ancient capital of the West Saxon kings) stands in the fertile valley of the *Itchen*, and on the banks of that stream, 11 miles to the northward of *Southampton*. *Windsor*, on the south bank of the *Thames*, is distinguished by its fine castle, the frequent residence of royalty. A few miles S.E. of *Windsor*, and within the extreme north-western corner of *Surrey*, is *Runnymede*, where King John signed *Magna Charta*, in 1215.

(136.) The cities of *Canterbury*, *York*, *London*, *Durham*, *Winchester*, *Lincoln*, *Carlisle*, *Rochester*, *Bath* and *Wells* (united), *Gloucester* and *Bristol* (united), *Exeter*, *Ripon*, *Salisbury*, *Peterborough*, *Worcester*, *Chichester*, *Lichfield*, *Ely*, *Oxford*, *Manchester*, *Hereford*, *Chester*, and *Norwich*—in *England*; and *Bangor*, *St. David's*, *St. Asaph*, and *Llandaff*—in *Wales*, are cathedral cities. *Canterbury* and *York* are the seats of the two archbishoprics, and each of the remainder is the seat of a bishop's see.

Oxford and *Cambridge* are the seats of the two principal universities. The university of *Oxford* consists of 20 colleges and 5 halls; that of

Cambridge of 16 colleges and 1 hall. London is the seat of a university, founded in 1828, and embracing two colleges in the metropolis—University College and King's College, together with several affiliated colleges and schools, some of them in the provinces. Durham also possesses a university, founded in 1831.

(137.) *Bath, Cheltenham, and Brighton*, are chiefly pleasure-cities, resorted to for their mineral waters, and (in the case of the latter) for the benefit of sea-bathing. Harrowgate, Matlock, Buxton, Leamington. Clifton (near Bristol), and Tunbridge-Wells, all possessing mineral springs, are also frequented as fashionable watering-places. Margate, Ramsgate, Deal, Dover, Folkestone, Hastings, Worthing, and many other places on the coasts of Kent and Sussex, are the resort of great numbers of the inhabitants of London for bathing and other sea-side recreations during the summer season.

(138.) The principal battle-fields of England and Wales, with their localities, are enumerated in the following list:—

	Date		Date
Atherton Moor (Lancashire, near Leigh) - - - - -	1643	Marston Moor (Yorkshire) - - -	1644
Barnet (Hertfordshire) - - - -	1471	Mortimer's Cross (Herefordshire, 5 miles n.w. of Loominster) -	1461
Blone Heath (Staffordshire, 11 miles n.w. of Stafford) - - -	1459	Naseby (Northamptonshire, 11 miles n.n.w. of Northampton) -	1645
Bosworth (Leicestershire) - - -	1485	Neville's Cross (near Durham) -	1346
Bradoc Down (Cornwall, s. w. of Liskeard) - - - - -	1643	Newbury (Berkshire) - - - - -	1643
Chalgrove (Oxfordshire, 9 miles s.e. of Oxford) - - - - -	1643	- - - - -	1644
Cropredy Bridge (near Banbury) -	1644	North Allerton (Yorkshire) - - -	1138
Edgcote, near Banbury (Oxfordshire) - - - - -	1469	Northampton (Northamptonshire)	1460
Edgehill (Warwickshire, near the Oxford border) - - - - -	1642	Roundway Down, near Devizes (Wiltshire) - - - - -	1643
Empingham (Rutland, 5 miles w. of Stamford) - - - - -	1470	Rowton Heath, near Chester (Cheshire) - - - - -	1645
Evesham (Worcestershire) - - -	1265	Sedgemoor (Somersetshire, near Bridgewater) - - - - -	1685
Flodden (Northumberland, 6 miles n.w. of Wooler) - - - - -	1513	Shrewsbury (Shropshire) - - - -	1403
Gainsborough (Lincolnshire) - -	1643	Solway Moss (Cumberland, on the Scotch border) - - - - -	1542
Halidon Hill, near Berwick (Northumberland) - - - - -	1333	St. Albans (Hertfordshire) - - -	1455
Hastings (Sussex) - - - - -	1066	- - - - -	1461
Hedgeley Moor, 7 miles s.e. of Wooler, (Northumberland) -	1464	St. Fagan's (near Llandaff, Glamorgan) - - - - -	1648
Hexham (Northumberland) - - -	1464	Stamford Bridge (Yorkshire, 7 miles s. of York) - - - - -	1066
Homeldon, 1 mile n.w. of Wooler (Northumberland) - - - - -	1402	Stoke, near Newark (Nottinghamshire) - - - - -	1487
Horncastle (Lincolnshire) - - -	1643	Stratton (Cornwall) - - - - -	1643
Langport (Somerset) - - - - -	1645	Tewkesbury (Gloucestershire) -	1471
Lansdown (Somerset, near Bath) -	1643	Towton (Yorkshire, near Tadcaster) - - - - -	1461
Lewes (Sussex) - - - - -	1264	Wakefield (Yorkshire) - - - - -	1460
		Worcester (Worcestershire) - - -	1631

(139.) The *Isle of Man* contains a population of 52,000, a large proportion of whom are engaged either in the mines, or the herring-fishery, which is extensively carried on round its shores. Of its agricultural produce, about half consists of oats,—the remainder of wheat and barley. The climate is mild (the mean temperature of summer being 77°, of winter 26°, and of the year 49°), and the rain-fall considerable. Grazing is carried on upon the hills; the horses or ponies, oxen, and sheep, are all small and hardy. The wool of the latter is worked into stockings.

The island is divided into six *sheadings*, which comprise 17 parishes. It forms an episcopal see, called the bishopric of Sodor and Man.

The towns contained in the Isle of Man, are Douglas, Castletown, Peel, and Ramsey, of which the largest is Douglas, situated on the east coast, and containing 8600 inhabitants. Castletown, however, is considered the capital of the island.

(140.) The *Channel Islands* (Art. 45.), though more nearly adjacent to the shores of France, are a dependency of Great Britain. Their size and population are as follow :

	Area in square miles.	Population (in 1851).
Jersey	62	57,000
Guernsey	23	32,000
Alderney	5	1000
Serk (with Herm) . . .	3	800
Total	93	90,800

These islands consist almost entirely of granitic rocks, and sienite is largely quarried in Jersey and exported as granite. In the eastern part of the same island, schistose and slaty rocks occur. Guernsey has no metals : iron and manganese exist in Jersey, but are not worked. The climate is mild, but moist, owing to frequent rains and the prevalence of sea fogs.

The agricultural produce, both of Jersey and Guernsey, is considerable, and consists chiefly of fruits and vegetables : apples are largely grown, and great quantities of cider are made. Potatoes are raised in large quantities. Both Jersey and Alderney are celebrated for a small kind of cow (called the Alderney cow), and Jersey exports a considerable quantity of butter and other dairy produce.

The fisheries of Jersey are valuable, and embrace the lobster, oyster, and cod, all of which are largely exported.

The Channel Islands have no manufactures of importance, but the making of boots and shoes is carried on to some extent in Jersey, and in Guernsey the making of cements, bricks, cordage, paper, and soap, is pursued on a small scale. Ship-building is carried on to a considerable extent in Jersey.

The trade of both the larger islands is considerable ; it consists in the export of agricultural produce (apples, cider, pears, potatoes, &c.), building-stone, and the produce of the fisheries ; — and the import of manufactured goods and coals, from England, — wine and brandy from France, — sugar and coffee from Brazil, timber from Sweden and Norway, with hemp, tallow, wheat and barley, from Russia and the other countries adjacent to the Baltic. Many of these, however, are again exported, as the peculiar privilege which these islands enjoy, in the almost total exemption from taxation, gives encouragement to this kind of traffic.

The inhabitants of the Channel Islands are a mixed race, and speak a corrupt dialect, composed both of the French and English tongues. French is the language of the upper classes, and is used in the churches and courts of law ; but the English is now becoming more generally prevalent.

The capital of Jersey is *St. Helier*, a small town situated on the south side of the island (population 10,000).

The chief town of Guernsey is *St. Pierre*, on the east coast, with 11,000 inhabitants.

Alderney is a dependency of Guernsey ; it has no good harbour. The channel between Alderney and Cape la Hague, on the coast of France, is called the Race of Alderney, and is rendered dangerous by the strength and rapidity of its tides. The established religion in the Channel Islands is that of the English church, and they are included within the see of Winchester.

SECTION II. — SCOTLAND.

(141.) *Extent and boundaries.* — Scotland constitutes the northern portion of the island of Great Britain. It is bounded on the north and west by the Atlantic Ocean, on the south by England and part of the Irish Sea, and on the east by the North Sea.

The most northern point of the mainland of Scotland is Dunnet Head (lat. $58^{\circ} 41'$), and the most southern, the Mull of Galloway (in lat. $54^{\circ} 38'$). A line drawn between these two points measures 288 miles.

The most eastern point is the headland called Buchan Ness (long. $1^{\circ} 46'$ w.), — the most western, Ardnamurchan Point (long. $6^{\circ} 13'$ w.). The breadth of the country varies greatly, and is in some places much diminished by the firths and narrow salt-water inlets, or lochs, which penetrate far into the body of the land. Between the opposite shores of the Firths of Forth and Clyde (nearly under the line of the 56th parallel), the land is less than 40 miles across from sea to sea. Thence northward to the parallel of the Moray Firth, the breadth varies between 100 and 150 miles, but in the most northern portion of the country is again diminished to from 40 to 50 miles.

The area of Scotland, exclusive of the numerous islands which belong to it, is 26,014 square miles. Owing to the numerous indentations of its western shores, it is difficult to form an estimate of the extent of its coast-line, which has been stated to measure as much as 2500 miles in length. It is, however, no doubt, relatively (if not absolutely) much greater than that of England.

(142.) *Capes.* On the east coast — St. Abbs Head (county of Berwick) — Fife Ness (Fifeshire) — Button Ness (Forfar) — Buchan Ness (Aberdeen), Kinnairds Head (*ibid.*) — Tarbet Ness (Ross-shire) — and Duncansby Head (Caithness), the north-eastern extremity of the country.

On the north side is Dunnet Head (Caithness), the most northern point of the land.

On the west coast, the principal are, C. Wrath (Sutherland), the n. w. extremity of Scotland.—Ardnamurchan Point (Argyle)—Mull of Cantire (at the south extremity of the peninsula of that name, Argyleshire)—Corsill Point (at the entrance of Loch Ryan, Wigtonshire)—Mull of Galloway (*ibid.*)—and Burrow Head (*ibid.*), the south extremity of the peninsula between Glenluce and Wigton Bays.

(143.) *Coasts.*—The most northern part of the coast of Scotland, between Dunnet Head and Cape Wrath, is formed by high cliffs, which also extend along great part of its western shores. To the south of Lake Linnhe, however, round the Peninsula of Cantire and the Firth of Clyde, the shores are generally low, and also between the Mull of Galloway and the head of the Solway Firth.

On the eastern side, the coast from Tarbet Ness, round the Murray Firth, to the high promontory of Buchan Ness, and thence southward to the north of the Dee, is generally low and sandy, excepting in some portions of small extent. In a part of this tract, which extends on both sides of the river Findhorn, are loose and shifting sands, which, combined with the action of the tide, have caused considerable changes in the line of coast. South of the river Dee, cliffs line a great part of the coast as far as the town of Arbroath (lat. $56^{\circ} 33'$). Thence round the Firth of Tay, the Peninsula of Fife, and the Firth of Forth, the coast is generally flat, though the high hills in some places approach very near the shore. A few miles before reaching St. Abbs Head, however, the coast again becomes high and rocky, and continues so thence to the mouth of the Tweed.

(144.) *Estuaries, Lochs, &c.*—The east coast of Scotland, though less indented than the western, has some extensive inlets, or firths. These are, the Firth of Forth, the Firth of Tay, the Moray or Murray Firth (the upper part of which divides into Loch Bealey and the Firth of Cromarty), and Dornoch Firth.

On the north coast the principal indentations are Dunnet Bay, the Kyle of Tongue, and Loch Eribol,—the two latter of which are narrow inlets resembling the lochs of the western side of the country.

On the west coast the principal inlets (proceeding from north to south) are, the Kyle of Assynt, Loch Broom, Loch Ewe, Loch Torridon, Loch Carron, Loch Alsh, Loch Hourn, Loch Nevish, Loch Sunart, Loch Linnhe, Loch Leven, Loch Etive, Loch Fyne, the Firth of Clyde, Loch Long, Loch Ryan, Glenluce Bay, Wigton Bay, and the Solway Firth, which forms part of the division between Scotland and England. Excepting the three last mentioned, with the Firth of Clyde and the Solway Firth, all the above are narrow inlets, which penetrate into the heart of the mountain region, like the fiords on the western coast of the Scandinavian peninsula. The narrow shores of these lochs afford shelter to men and cattle against the fury of the Atlantic storms, and so render this portion of the coast capable of habitation.

The long and narrow peninsula of Cantire, nowhere more than eight

miles across, is also a peculiar feature of the western coast. At one point it is narrowed to little more than a mile in breadth.

(145.) The arm of the sea between the northern extremity of Scotland and the group of the Orkney Islands is called the *Pentland Firth*, which is distinguished by the extraordinary strength and rapidity of its tides and currents. Between the large island of Skye and the mainland is the *Sound of Sleat*. The channel which divides the island of Mull from the opposite coast is called the *Sound of Mull*, and that which separates the Island of Jura, the *Sound of Jura*. Between the islands of Jura and Islay is the *Sound of Islay*. The narrow passage round the north and north-west sides of the Island of Bute is called the *Kyles of Bute*.

Between the main group of the Hebrides and the western coast is the broad channel of *the Minsh*, the southern portion of which, narrowed by the island of Skye, is distinguished as the *Little Minsh*.

The seas around the shores of Scotland are generally deeper than those which lie off the English coasts. In the parallel of the Firth of Forth the central part of the North Sea has a mean depth of 240 feet,—off Tarbet Ness, about 300 feet,—and off the Shetlands, above 500 feet. Nearer inland, off the entrance to the Firth of Forth, the mean depth of the sea is about 170 feet,—off the Firth of Tay, about 90 feet; thence further northward to the parallel of Aberdeen, it preserves a mean depth of from 200 to 260 feet at a distance of about 10 miles from land. At the entrance of the Moray Firth (to the south-east of Tarbet Ness) the mean depth of the channel is from 120 to 150 feet.

On the Atlantic side the sea is generally deep near the shores, and attains a depth of 600 feet (100 fathoms) at a distance of from 90 to 120 miles from the mainland. It then sinks suddenly to upwards of 200 fathoms.

(146.) Scotland is divided into thirty-three counties, the names of which are as follow (beginning with those adjacent to England, and proceeding northward):

Berwick.	Renfrew.	Banff.
Haddington.	Lanark.	Elgin.
Edinburgh.	Dumbarton.	Nairn.
Linlithgow.	Stirling.	Bute.
Roxburgh.	Clackmannan.	Argyle.
Selkirk.	Kinross.	Inverness.
Peebles.	Fife.	Ross.
Dumfries.	Perth.	Cromarty.
Kirkcudbright.	Forfar.	Sutherland.
Wigton.	Kincardine.	Caithness.
Ayr.	Aberdeen.	Orkney and Shetland.

(147.) *Natural Features of Surface.* — Scotland is for the most part a mountainous country. The ancient and native division of its surface is into the *Highlands* and the *Lowlands*. This does not coincide, in all cases, with its political division, for several of the Scotch counties fall in part within the highland, and in part within the lowland region. But it is a distinction that is indelibly impressed upon the face of the land, and may be most appropriately followed in sketching the chief features of its physical geography.

Speaking generally, the *highlands* embrace the northern and western portions of Scotland: the *lowlands* its southern and eastern portions. The great natural division between the two is formed by a broad valley, which crosses the country diagonally in the direction of north-east and south-west, from the shores of the North Sea nearly to the mouth of the Clyde. This plain is called Strath-more, or *the great strath*. The country lying north and west of Strathmore constitutes the Highlands: that lying south and east of Strathmore belongs to the Lowlands.

(148.) *The Lowlands.* — What is called Lowland Scotland is by no means a level or low-lying region. On the contrary, the Scotch lowlands embrace many elevated tracts of country, a great portion of them more or less covered with hills, some of which rise to considerable altitude. But the hills are of more rounded form, the valleys which divide them of greater breadth, and the adjoining plains of larger proportions, than is the case in the highland region.*

The lowlands may be regarded as divided into two portions,—northern and southern—by a plain which extends between the friths of Clyde and Forth, upon opposite sides of the island. This plain is in itself a remarkable feature in the physical geography of Scotland.

The highest part of the plain of Clyde and Forth is only 222 feet above the sea-level. The country which extends thence to the borders of England belongs naturally to the same physical region as the northern

* Throughout southern Scotland, which belongs entirely to the lowland region, the pastoral valleys which penetrate the high ground are distinguished by the term *dale* (as Tweeddale, Teviotdale, Clydesdale, &c. The narrow valleys which intersect the highlands are uniformly called *glens*. The word *dale* (equivalent to the Scandinavian *daal* and the German *thal*) calls to memory the fact of the settlements early made by the Northmen within that portion of Scotland. *Strath*, applied to some valleys on the lowland border, or within its limits, is Anglo-Saxon. Within the region of highland glens and rugged mountains, the Celtic population has maintained its place to the present day.

portion of that country. It consists chiefly of upland plains, upon which elevated masses of land rise into hills of considerable height. The valleys of the rivers form depressions in the generally high and undulating surface of this region.

The principal mass of the high lands of southern Scotland lies in an east and west direction, and forms in its eastern portion the dividing chain of the Cheviot Hills. This elevated land separates the valleys of the Tweed and the Clyde from the Nith and other rivers of the Solway Frith. Its greatest elevation is attained towards the central portion of the whole region, around the upper valleys of the Clyde and the Tweed. The summit of Broad Law, about twelve miles south-west of the town of Peebles, is 2741 feet above the sea.

The high lands here, and around upper Clydesdale, spread out for many miles north and south, and consist of barren, bleak, and rounded masses, which present to appearance a confused heap of rugged mountain tops. Several high summits occur along the principal line of watershed, at the head of the tributary valleys which belong to the Tweed basin. Hart Fell, at the head of Tweeddale, is 2635 feet above the sea. Ettrick Pen, further to the eastward, 2258 feet. Queensbury Hill, near the source of the Clyde, is 2259 feet, and the highest of the Tintoe Hills (further to the northward, in the angle between the Clyde and its tributary the Douglas), 2306 feet. The village of Leadhills, near the borders of Lanark and Dumfries, and on the west side of upper Clydesdale, is 1280 feet above the sea, and is said to be the highest inhabited place in Great Britain.

West and south-west of the line of watershed, an elevated region, of irregular surface, reaches nearly to the shores of the Irish Sea and the North Channel. No continuous mountain ridge can be traced, but numerous high masses occur. Among the latter are Black Larg (at the point of junction of the three counties of Ayr, Dumfries, and Kirkcudbright), 1950 feet; Cairnsmoor (south-west of the preceding, and to the east of Loch Doon), 2597 feet; and Larg Fell (in the south-west part of Kirkcudbright), 1758 feet. Criffell, on the west side of the mouth of the Nith, is 1830 feet high.

The high ground which divides the upper valleys of the Clyde and Tweed is connected with the range of the Pentland Hills, which extend from the neighbourhood of Edinburgh in a general south-west direction. The highest of the Pentland Hills is 1860 feet above the sea: Arthur's Seat, adjacent to Edinburgh, is 822 feet, and the rock upon which Edinburgh Castle is built, 434 feet, above the sea.

From the southern part of the Pentland Hills, a range of high land runs eastward to the coast at St. Abbs Head, and separates the basin of the middle and lower Tweed from the valley of the Tyne (of Had-dington). The western portion of this range is called the Muirfoot Hills,—the eastern and wider portion, the Lammermuir Hills. The highest of the Muirfoot Hills is 2193 feet;—in the Lammermuir, Sayers Law, the highest summit, is 1753 feet, and several others are of nearly equal elevation. The highest parts of the Lammermuir are chiefly moss or moor land.

The principal *plains* in this portion of Scotland, besides that which stretches between the estuaries of the Clyde and Forth, are the lower

portion of Clydesdale,—the plain of Ayrshire, which forms a kind of amphitheatre, enclosed by hills on three sides,—the narrow plain along the shores of the Solway Frith,—the lower part of the valley of the Tweed,—and the valley of the small river Tyne (of Haddington). Among the pastoral valleys which penetrate the mountain region are Tweeddale, Teviotdale, and Landerdale, belonging to the basin of the Tweed,—and Liddesdale, Eskdale, Annandale, and Nithsdale, sloping towards the shores of the Solway Frith.

(149.) The more northwardly division of the Lowland region extends along the eastern side of Scotland, from the Frith of Forth northwards. It includes Strathmore, and also two hilly regions which intervene between Strathmore and the waters of the North Sea. These two tracts of high ground are—the Ochill Hills, and the Sidlaw Hills:—the former between the Friths of Forth and Tay, the latter to the northward of the Frith of Tay.

Strathmore,—“the great plain,”—extends without interruption from the immediate neighbourhood of Stonehaven (on the coast of Kincardine), in the direction of south-west, to the banks of the Forth, above Stirling, a total length of nearly ninety miles. Its breadth varies from sixteen miles in its widest part (along the course of the Forth and Teith) to less than a mile at its northern extremity, where it is terminated by the close approach of the Grampian range to the waters of the North Sea. Strathmore exhibits the most continuous extent of level and cultivable land in Scotland. Throughout its whole length there is scarcely a hill or any eminence to obstruct the view. The greater portion of this plain is under cultivation. A low range of heights, called the Campsie Fells, intervenes between the valley of the Forth, in the neighbourhood of Stirling, and that of the Clyde, about Dumbarton. Their highest elevations are 1500 feet.

The *Sidlaw Hills* commence in the neighbourhood of Perth, and extend thence in a north-east direction; their highest elevations are about 1400 feet. They terminate by a rapid declivity on the side of Strathmore, but descend by a succession of terraces towards the North Sea. South of the Sidlaw Hills, along the Frith of Tay, is the carse of Gowrie, a plain of two or three miles in breadth, and one of the most fertile tracts in Scotland.

The *Ochill Hills*, with their offsets and outlying branches, occupy the greater part of the peninsula of Fife, and exhibit some masses of considerable elevation. Ben Clach (5 miles north by east of Alloa) is 2359 feet above the sea, and the highest of the Lomond Hills, to the north-east of Loch Leven, 1280 feet. The hills in general leave a narrow belt of lowland round the shores of the peninsula.

(150.) *The Highlands.*—The highlands comprehend the widest portion of Scotland, stretching (under the line of the 57th parallel) across the whole breadth of the country, from the North Sea on one side to the Atlantic Ocean on

the other. The greater part of this extensive mass of high ground is filled by the Grampians and their connected elevations. A deep and narrow valley, however, divides the highland region into two portions; this valley is called *Glenmore*, or the great glen. The general direction of Glenmore is from north-east to south-west; it extends entirely across Scotland, from the head of the Moray Frith to Loch Linnhe, and furnishes (in part by artificial means) a water-communication between the opposite sides of the island.

Glenmore forms the most marked and singular feature in the physical conformation of Britain. Its entire length, from Fort George, at the head of the Moray Frith, on the north-east, to the Sound of Mull on the south-west, is about 100 miles. The north-eastern extremity of the glen is occupied by the Moray Frith; its south-western extremity by Loch Linnhe, and its northward prolongation, Loch Eil. In its middle portion are three long and narrow lakes, Loch Ness, Loch Oich, and Loch Lochie: the largest of these is Loch Ness, which discharges itself by the river Ness into the Moray Frith. The Caledonian Canal connects all these lakes by navigable channels.

The extensive tract of country which stretches between Glenmore and Strathmore includes by far the larger portion of the highlands. More than three-fourths of this area constitute a high mountain region, a large portion of which is upwards of a thousand feet above the sea. Upon this elevated base rise the highest mountains in the British Islands.

The *Grampian Mountains* measure nearly 100 miles in length, from east to west, and their higher summits have an average elevation of from 2000 to 3000 feet above the sea. At the western extremity of the chain, near the shores of Loch Linnhe, is Ben Nevis, a huge mass, the summit of which rises to 4406 feet above the sea. Ben Nevis is the highest mountain in Scotland, and the culminating point of the British Islands. The Cairn Gorm Mountains, an outlying group of the Grampian system (situated to the northward of the main range, near the head of the valley of the Dee), contain some summits which are little inferior in altitude: Ben Mac Dhui, in this group, is 4295 feet above the sea-level.*

On the north side of the Grampians a high and mountainous tract ex-

* The Grampians do not rise to the proper height of perpetual congelation (which in their latitude would be about 150 feet above the elevation of their highest summits). But in the dark recesses of the Cairngorm group the snow sometimes remains all the year round, and the surface of Loch Avon—a small lake situated in the heart of this high and desolate region, at an elevation of 1750 feet, and overhung by the precipitous sides of the mountains—has no sunshine for several of the winter months. It is a clear and beautiful sheet of water, on the banks of which, however, no shrub, or living creature of any kind, is seen,—except when its solitude is disturbed by the occasional visit of a straggling red deer from the neighbouring pine forests, or by the presence among its almost inaccessible cliffs of the eagle or the ptarmigan.

tends nearly to the shores of the North Sea and the Moray Frith,—diminishing, however, in elevation as it approaches the coast, near which the valleys of the rivers (or *straths*) widen out into plains of limited extent. On the west side of the Spey is a continuous range called the Monadh Leadh Mountains, the higher portions of which are about 2000 feet above the sea.

From Ben Nevis, a succession of high mountain-masses extend southward to the Frith of Clyde: these are sometimes distinguished as the Southern Grampians. They do not form any continuous range, but contain huge masses of great extent and considerable height. Amongst them is Ben Cruachan, 3390 feet in elevation. High mountains line the western side of Loch Long, and extend through the peninsula between that lake and Loch Fyne, down to the shores of the narrow channel which separates the island of Bute from the mainland.

The country to the east of this southward extension of the Grampians, and to the south of the principal chain, contains numerous high summits,—among which are Ben Lomond, 3191 feet,—Ben More (in the south-western extremity of Perthshire), 3818 feet,—Ben Lawers (on the west side of Loch Tay), 3984 feet,—and Schehallion (north-east of the latter-named mountain), 3514 feet, above the sea.

A considerable portion of the mountain region above described consists of open moorland. The tract known as Rannoch Muir, to the north-eastward of Ben Cruachan, extends over nearly four hundred square miles of country, which is a complete desert: its surface forms a nearly level plain, covered by an immense bog, which produces no vegetation of any kind, except on the immediate banks of Loch Lydoch, round which are a few fir-trees. To the north of this desolate region is a tract of equally sterile character, lying between Ben Nevis and the shores of Loch Ericht.

(151.) The mountains on either side of Glenmore rise with a steep and rugged ascent to a considerable height, averaging upwards of 1000 feet in the neighbourhood of Loch Ness. On the western shores of this lake is Mealfourvouny, 2730 feet above the sea.

The portion of Scotland which lies west and north-west of Glenmore consists chiefly of an elevated table-land, which in its central part is about 1000 feet above the sea level, and in some portions probably not less than 1500 feet. Ben Wyvis, to the west of Cromarty Frith, rises to the height of 3422 feet; Ben Attow (on the borders of Ross and Inverness, to the eastward of Loch Alsh) is about 4000 feet high. Many other summits in this portion of Scotland are between 2000 and 3000 feet in elevation. The higher masses lie in general nearer the western than the eastern coasts, and terminate abruptly on the side of the Atlantic.

This mountainous tract, although it does not attain the great elevation of the Grampians, yet exhibits in some parts a character of greater wildness and rocky desolation than any other part of Scotland. Nearly the whole region is, in fact, a naked and barren mountain wilderness, alternating between high mountains and tracts of open moorland, covered with heath and bog.

The level districts of Northern Scotland probably do not occupy more than a twentieth part of its entire surface. They extend, at intervals, along the eastern coast, from the shores of Loch Beauley and the Moray

Firth to the northern extremity of the island, in the neighbourhood of the two capes of Duncanshy and Dunnet Head, and form two principal plains,—those of Cromarty and Caithness, the latter of which is of the larger extent. The *Plain of Cromarty* extends along both sides of the firth of that name, and thence across to the Firth of Dornoch : it contains some fertile and well-cultivated tracts.

The *Plain of Caithness* comprehends about four-fifths of the county of that name, embracing however some moorland tracts elevated from 200 to 300 feet above the sea, and which afford good pasturage. Agriculture is confined to the level tracts along the water-courses and the slopes of the higher plains.

(152.) *Islands.*—The islands of Scotland form four groups,—the islands in the Firth of Clyde, the Hebrides, the Orkney Islands, and the Shetland Island. The northernmost of these groups, the Shetland Islands, extends to the parallel of $60^{\circ} 49'$, and forms the most outlying portion of the British Archipelago in that direction :—the island of St. Kilda, the most western of the Hebrides, is under the meridian of $8^{\circ} 37' W$.

It has been estimated that the Shetland Islands occupy an area of 880 square miles, the Orkneys 440, the Hebrides 2585, and the islands in the Firth of Clyde 165 square miles, making a total of 4070 square miles. This, added to the extent of the mainland (Art. 141.), gives 30,084,—or, in round numbers, about 30,000,—square miles, as the entire area of Scotland.

(153.) *Islands in the Firth of Clyde.*—These consist of the large islands of Bute and Arran, the small islets of Great and Little Cumbray, and the rock of Ailsa. Arran consists of a mass of heathy mountains surrounded by a narrow belt of lowland : the mountains are highest towards the north, where Goat Fell, the loftiest summit, rises to 2865 feet. Only a small portion of the land is cultivable, and is not generally fertile.

Bute is bleak and rugged towards its northern extremity, but the central and southern portions consist of undulating ground, fit either for tillage or pasturage, and affording good crops of barley and oats.

The islands of *Great and Little Cumbray* lie at the entrance of the narrower portion of the Firth of Clyde, between the island of Bute and the mainland. Their surface is hilly and verdant, but bare.—*Ailsa Crag*, in the broad part of the Firth of Clyde, is an insulated hill, about two miles in circumference, and rising in precipitous cliffs to 1098 feet above the sea. It is the resort of enormous numbers of sea-fowl.

(154.) *The Hebrides, or Western Islands of Scotland*, consist of two portions,—those which lie adjacent to the mainland, as Jura, Islay, Mull, Skye, and others, distinguished as the *Inner Hebrides*—and those situated to the west of the channel of the Minsh, which form the *Outer Hebrides*.

The largest of the Inner Hebrides is *Skye*, which is covered with mountains, the highest about 3000 feet in elevation. Between the north part of Skye and the mainland are the islands of Rona, Raasay, Scalpa,

and others : off its south-west side are Canna, Rum, Eigg, and Muck—all mountainous. Further to the south are Coll and Tiree, of less elevation. Eleven miles south-west of the last-mentioned island is the Skerryvore, a dangerous group of rocks, upon which a lighthouse has been erected.

Mull is mountainous, and its highest summit, Ben More, rises to 3185 feet. Off its south-west coast is the small island of *Iona*, or *Icolmkill*, the seat of ancient civilisation, and celebrated for its ecclesiastical remains ; and, a few miles further north, the basaltic islet of *Staffa*, remarkable for its magnificent cavern.

Jura and *Islay* are separated by the Sound of Islay. In the former island, the Paps of Jura rise to 2566 feet in height. Islay, though hilly, is less elevated, and contains a larger proportion of cultivated land than any other of the Hebrides. Between Islay and Mull are the islands of *Colonsay* and *Oronsay*, the narrow channel between which is dry at low water, when they form one island.

The Outer Hebrides form a continuous group, of 140 miles in length, so close that they are commonly considered as one, and named the *Long Island*. The largest consists of two portions, *Lewis* and *Harris*, united by a narrow isthmus. Further south are the large islands of *North Uist*, *Benbecula*, and *South Uist*, besides an immense number of smaller islets. On the west side of Lewis the mountains rise to 2700 feet in height,—in Harris to 2220 feet. Mount Heval, in North Uist, is 2010 feet, and Ben More, in South Uist, 2034 feet. Harris is generally mountainous, but a large portion of Lewis consists of moss and moorland. The most northern point of the Outer Hebrides is called the Butt of Lewis ; to the south, they terminate in the group of the Barra Islands, the most southward of which forms the rock of Barra Head.

The island of *St. Kilda*, which lies 42 miles to the westward of the Long Island, is about three miles in length by two in breadth, and rises to 1380 feet above the sea. Except at the landing-place on its south-west side it is fenced round by inaccessible precipices. It is resorted to by immense numbers of sea-fowl, upon which the inhabitants are mainly dependent for subsistence. Still further to the westward, at a distance of 180 miles from the nearest land, is the little islet of *Rockall*, which is uninhabited.

(155.) The *Orkney Islands*, divided from the mainland by the Pentland Frith, comprise Pomona (or Mainland), Hoy, North and South Ronaldsha, Westra, and many others, amounting altogether to sixty-seven in number, forty of which are uninhabited. The highest elevation, in Hoy Island, is 1556 feet.

The *Shetland Islands* exceed 100 in number, of which between thirty and forty are inhabited. The largest, Mainland, is 52 miles in length, and of very irregular shape. The next in size are Yell, Unst, Fetlar, Whalsay, and Bressay. Mount Rona, in the north of Mainland, is 1470 feet : the island of Foula, to the west of the principal group, 1372 feet. About midway between the Orkney and Shetland groups is *Fair Island*, 708 feet high.

The surface of both the above groups consists of dreary and heathy wastes, interspersed with rocks, and sometimes varied by swamps and lakes. In some parts, however, particularly in Orkney, the land is very

fertile, and produces good corn and herbage. The climate is moist, but equable. The Shetland Islands are in general more rugged, wet, and barren, than the other group. They are generally fenced, particularly on their western side, with high and precipitous cliffs, against which the ocean dashes with great fury, and which its waves have worn into the most various and fantastic forms.

There are a few detached islets off the *eastern* coasts of Scotland. These consist of, the *Bass Rock* (on the south side of the entrance of the Firth of Forth), a mass of basalt, which rises perpendicularly to 400 feet above the sea; *May Island*, *Inchkeith*, *Inchcolm*, and others, all in the Firth of Forth; and the *Inch Cape*, or *Bell Rock* (14 miles east of the entrance to the Firth of Tay), the site of a celebrated lighthouse. At the eastern extremity of the Pentland Firth are some rocks called the *Pentland Skerries*.

(156.) *Rivers*.—With the exception of the Clyde and the Nith, all the principal rivers of Scotland flow into the sea on the eastern side of the island. The closer approach of the high lands of Middle and Northern Scotland to the western than the eastern shores prevents the formation of streams of any considerable length in the former direction.

On the east side of Scotland, the principal rivers (enumerated from the borders of England northward) are,—the Tweed, the Tyne (of Haddington) the Forth, the Leven, the Eden, the Tay, the South and North Esk, the Dee, the Don, the Doveran, the Spey, the Findhorn, and the Ness.

On the south and west coasts are the Esk, the Annan, the Nith, the Dee (of Kirkcudbright), the Cree, the Doon, the Ayr, the Irvine, and the Clyde, all of which belong to the lowland or southern portion of Scotland.

The most considerable river of Scotland, both in regard to length of course and area of drainage, is the *Tay*, which has a course of about 100 miles from its source to the town of Perth, two miles below which it enters the estuary called the Firth of Tay. The Tay drains an area of about 2400 square miles,—more than one-eleventh part of the whole mainland of Scotland. Of its affluents, the principal are the Earn and the Almond, on its right bank, and the Lyon, the Tumel, and the Isla, on the left. The Tumel rivals the Tay in volume of water and extent of drainage above their junction, and (with its tributary, the Garry,) brings down the water from an extensive system of lakes adjacent to the high district of Rannoch Moor. The Tay is not navigable above Perth, which is also the limit of the tide-water.

The *Tweed* has a length of 96 miles, and drains an area of 1870 square miles. The tide ascends this river about ten or twelve miles, but it is not navigable above Berwick. From its source to its mouth the Tweed has a fall of upwards of 1500 feet; it is noted for its salmon fisheries,—and, during certain seasons, is liable to considerable floods. The chief tributaries of the Tweed are the Ettrick (with its affluent, the Yarrow), the

Teviot, and the Till (within the borders of England), on the right bank, —the Lyne, the Gala, the Lauder, and the Adder, on the left.

The *Forth* has a length of 60 miles from its source (on the skirts of Ben Lomond) to the neighbourhood of Alloa, where it unites with the firth to which it gives its name; throughout its whole course it winds very considerably: its basin is about 645 square miles. The Forth is navigable up to Stirling; its estuary, which is about 50 miles long, forms a broad and deep channel, capable of receiving the largest vessels.

The *Dee* has a length of 87 miles, and drains about 700 square miles of country. Its source is in the Cairngorm group of mountains, at a height of 4060 feet above the sea, — a greater elevation than that of any other river in the British Islands: the declivity of its bed is hence very considerable, and its course, especially in its upper portion, is exceedingly rapid.

The *Don*, about 50 miles in length, has a basin of 530 square miles: it is generally rather a slow river, though rising at an elevation of 1640 feet. Neither the Dee nor the Don is navigable.

The *Spey* has a length of 96 miles, and drains an area of 1190 square miles; its source, in a small pool called Loch Spey, is at an elevation of about 1200 feet above the sea. Unlike most rivers, the lower portion of its course is the most rapid: in the upper part of its valley, the river slumbers in dark mossy lakes. The Spey is the wildest and most capricious of all the large British rivers, forming numerous rapids and falls, and its variations as to quantity of water are very considerable. It is not navigable, but timber is sent down it in floats or rafts.

The *Clyde*, 98 miles in length, drains about 1580 square miles. Its source, 1400 feet above the sea, is in the central part of the high lands of southern Scotland, and the upper part of its course is closely adjacent to some of the smaller tributaries of the Tweed basin. In the neighbourhood of Lanark, the Clyde forms three considerable falls, by which it descends 230 feet within a distance of less than 4 miles. It is navigable below Glasgow, which is also the limit of the tide-water. The principal tributaries of the Clyde are the Douglas and the Avon, on the left bank, and the Medwin, the Calder, and the Kelvin, on the right.

The *Nith* has a length of 60 miles, and drains about 460 square miles. The *Dee* (45 miles) forms in its middle portion a long narrow lake called Loch Ken, 10 miles in length by from one-half to three-quarters of a mile in breadth. The *Esk* has the lowest part of its course within the English border. The Annan (45 miles), the Esk, and the Eden (an English river), are seen to unite in the broad expanse of sand which, at low water, forms the head of the Solway Firth.

(157.) *Lakes*.—Lakes are very numerous in Scotland, especially in the middle and northern divisions of the country. They are mostly long and narrow bodies of water, occupying the deep hollows within the elevated mountain-valleys. Although called by the same appellation of *loch*, they are essentially different from the salt-water lochs of the western coast, which have been already described (Art. 144.).

The largest lake in Scotland, and also in Great Britain, is *Loch Lomond* (45 square miles), which is twenty-four miles in length and seven miles

in its greatest breadth, and contains more than thirty islands. At its southern extremity the river Leven carries its waters into the Clyde.

To the east of Loch Lomond, and separated from it by the mass of Ben Lomond and the adjacent mountains, is Loch Katerin (or Katrine), 9 miles long and three-quarters broad, the water of which is carried off by the Teith, the most considerable tributary of the Forth. On the banks of Lake Katerin, and the smaller lakes of Achray and Venacher, which lie below it, is the beautiful scenery of the *Trossachs*, a tract generally regarded as surpassing in its varied combinations of mountain, lake, river, and wood, any other district in the British Islands.

Loch Awe, 23 miles long and $1\frac{1}{2}$ in average breadth, is united by the river Awe to Loch Etive—one of the salt-water estuaries of the western coast. It is the second in magnitude of the Scottish lakes, and is surrounded by lofty mountains, among which Ben Cruachan, on its n. side, is pre-eminent.

Loch Tay, through which the river Tay passes, is 14 miles long and between one and two in breadth: on its western side is the huge mountain-mass of Ben Lawers. *Loch Erich*, *Loch Rannoch*, and *Loch Lydoch*, are all united to the basin of the Tay by the river Tummel. *Loch Earn* is also connected with the Tay by the river Earn, which issues from this body of water.

Loch Leven, within the peninsula of Fife, is the largest lake not belonging to the region of the Highlands. The river Leven carries its waters into the Firth of Forth. The ruins of Lochleven Castle are situated on one of four islands which lie within this lake.

Loch Ness, 22 miles long by about $1\frac{1}{2}$ broad, forms a portion of Glenmore (Art. 151.): it is upwards of 800 feet deep in its central part. *Loch Oich*, in the same valley, is five miles, and *Loch Lochie*, nine miles in length. In the high valley of Strath Erich, on the east side of Loch Ness, are the *Falls of Fyers*, 277 feet in height, considered one of the finest waterfalls in the British Islands, and rivalling the falls of the Clyde and the Tummel in beauty.

The largest lakes in the Northern Highlands are *Loch Shin*, which discharges itself by the river Shin into the Dornoch Firth,—and *Loch Maree*, which is connected by the river Ewe with the estuary of Loch Ewe, on the western coast. Loch Maree contains numerous small islands, and the high mountains by which it is surrounded are among the few present haunts of the eagle in Great Britain. There are also numerous others, similar in form to those already described.

(158.) *Minerals*.—*Coal* and *iron* are the most considerable of the mineral productions of Scotland, and are chiefly confined to the southern division of the country and the neighbouring peninsula of Fife.

The great coal district of Scotland extends across the island in a diagonal direction,—from Fife Ness, at the eastern extremity of the county of that name, across the Firth of Forth and the course of the Clyde, to the coast of Ayrshire. Throughout this tract is a succession of detached coal-fields, the total extent of which has been estimated at nearly 1000 square miles. The richest portions are those in the peninsula of Fife;—in the immediate neighbourhood of Glasgow;—and to the s. and e. of Edinburgh. Coal is also found in a few other places, but in insignificant quantities.

Iron-stone of excellent quality abounds in many parts of the above dis-

tract, and is very extensively worked, especially in the neighbourhood of Glasgow and the tract of country to the eastward and north-eastward of that city.

The only other mineral found in any quantity in Scotland is *lead*, of which some rich mines are worked in the tract of the Lowther Hills, on the borders of Lanark and Dumfries. This metal is also found in a few other places. A small quantity of silver is extracted from the lead.

Excellent building-stone, of various kinds — particularly sand-stone — occurs in Scotland, in the neighbourhood of Edinburgh, Glasgow, different parts of Perthshire, and elsewhere. Granite is abundant in Aberdeen, on the northern declivity of the Grampian Mountains, and forms the entire mass of the Cairngorm group. It occurs also extensively in the county of Kirkcudbright, and in the island of Arran. Roofing-slates are quarried extensively at several places in the county of Argyle.

Mineral Springs. — Saline waters occur in the neighbourhood of Stirling; near Perth; at Inverleithen (on the Tweed), and near Peterhead (Aberdeenshire):—chalybeate waters at Hartfell, near Moffat; Vicar's Bridge, near Dollar, in Clackmannanshire; at Bonnington, near Edinburgh; and near the village of Ballater, on the north bank of the Dee:—sulphureous waters at Moffat (Dumfriesshire), and at Strathpeffer, near Dingwall, Ross-shire. There are no warm springs in Scotland.

(159.) *Climate.* — The climate of Scotland resembles that of England in its general character, allowance being made for the diminution of the mean temperature of the year with the gradual advance to a higher latitude. Edinburgh (220 feet above the sea) has a mean annual temperature of 47.1° , Aberdeen of 49.1° , Wick of 46.9° , Stromness (Orkney Islands) 46.3° , and Unst (the most northern of the Shetland group) of 44.7° .

In the parallel of the Shetland Islands the longest day is nearly 19 hours, and the shortest less than 6 hours. But, owing to the essentially maritime position of these islands and the northern coasts of the mainland, the extremes of heat and cold are so moderated as to cause a less amount of difference between their summer and winter temperatures than in any other part of the British Islands, excepting in the south-western extremity of Cornwall, at the opposite end of the island. The winter temperature of the Shetland Islands is the same as that experienced on the south coast of England, in the neighbourhood of the Isle of Wight, though there is a difference of 10° of latitude, or nearly 700 miles, between them.

The Hebrides have a more humid and variable climate than any other part of the British Islands.

The native vegetation and zoology of Scotland require no special description, and their general character has been already noticed (Art. 123.) Many of the fruits and other plants which belong to England do not come to perfection in Scotland, on account of the greater severity of the climate. Wood is generally much less abundant in Scotland than in England, though extensive forests of fir occur in some parts of the Highlands, especially in the county of Aberdeen.

(160.) *Inhabitants.* — Scotland is a thinly-populated country. The

number of its inhabitants, in 1851, was 2,870,000,—an average of 95 to the square mile. But while in the districts around Glasgow and Edinburgh the number of inhabitants is between 600 and 700 to the square mile, in the county of Argyle the proportion is only 27, in Ross and Cromarty 29, in Inverness 23, and in Sutherland only 14. The Highland counties,—that is, the north and west parts of the country—have all a very low average of population, owing to the mountainous nature of the surface and the small extent of cultivable land.

The people of Scotland form two distinct races,—the *Lowlanders*, who are a mixed people, but resemble in the main the great bulk of the inhabitants of England, and speak a language which is radically the same as the English,—and the *Highlanders*, who are of the Celtic race, and speak a totally different dialect. The Lowlanders form, however, the great majority of the people, and the Highlanders are now chiefly confined to the districts lying north and west of the Grampians. The English language is gradually extending itself over every part of the Highlands, and the Celtic dialect will probably ere long be wholly supplanted by it.

(161.) *Industrial occupations.*—Scotland is at present, in even a greater ratio than England, principally a manufacturing and commercial country. The generally mountainous character of the country necessarily sets limits to the extension of cultivation, but the manufacturing and commercial resources of its southern portion—in the abundance of coal and iron, and the number and excellence of its harbours—are almost unbounded.

Agriculture.—Only about a fourth part of the surface of Scotland is estimated to be capable of cultivation, and of this nearly one-half is in grass. Agriculture is, however, nowhere better understood, or more skilfully practised, than in some portions of the Lowlands, particularly in the districts called the Lothians (embracing the counties of Haddington, Edinburgh, and Linlithgow, to the south of the Firth of Forth), and the adjacent county of Berwick. In the counties of Dumfries, Ayr, Renfrew, Lanark, and Fife,—and also in that part of Perth and Forfar which embraces the Carse of Gowrie,—as well as some parts of Aberdeen, Elgin, and Nairn,—are also many fertile tracts, in which the cultivation of the soil is extensively carried on.

Throughout Scotland the staple crop consists of oats, but wheat of fine quality is grown in many of the above districts; barley is also grown, and flax—though only to a very limited extent. Turnip husbandry is extensively pursued in the counties of Haddington and Berwick, and throughout the eastern counties a large quantity of potatoes is grown for the supply of the London market.

The dairy-farm districts are chiefly in the counties of Ayr, Renfrew

and Dumfries, the first-named of which is famous for the cheese made at Dunlop, near its northern border.

(162.) *Fisheries.* — The fisheries of Scotland constitute an important and valuable branch of industry. The salmon abounds in most of the larger rivers, especially in the Tay, the Tweed, Dee, Don, Findhorn, and Spey, and the produce of its fishery is very considerable. The herring-fishery is also pursued to a great extent, chiefly on the shores of Caithness and the Moray Firth, off the entrance of the Firth of Forth, and in Loch Fyne and other places on the west coast. Cod, ling, and haddock, are likewise extensively taken, and there is a great oyster-fishery in the Firth of Forth, from which many millions of oysters are exported annually.

(163.) *Manufactures.* — The *cotton* manufacture is the first in importance, though of comparatively recent introduction, and the printing of cottons is carried on to a greater proportionate extent in Scotland than in England. Its chief seats are Glasgow and Paisley, and their immediate neighbourhood, in the counties of Lanark and Renfrew; it is also pursued to a smaller extent in the counties of Ayr, Aberdeen, and Perth.

The ancient staple manufacture of Scotland was that of *linen*, which is still carried on to a considerable extent, chiefly along the eastern coasts, — at Dundee (Forfar) and its neighbourhood for the coarser articles, as sail-cloth, &c. — and at Dunfermline (Fife) and its vicinity for diapers, damasks, and the finer fabrics.

The *woollen* manufacture is not considerable, but is carried on in the counties of Stirling, Ayr, Roxburgh, Selkirk, Aberdeen, and elsewhere: woollen hose, blankets, and flannels, are made at Hawick (Roxburgh), tartans at Stirling and Bannockburn, and carpets at the latter place and St. Ninian's (both in the county of Stirling). Kilmarnock (Ayr) is a noted seat of the manufacture of carpets, shawls, and other woollen goods. The manufacture of *silk* is pursued to a small extent at Paisley, Glasgow, and Edinburgh. The iron-works have been already spoken of (Art. 158.).

The manufacture of soap (chiefly at Glasgow, Leith, Paisley, Aberdeen, Prestonpans, and Montrose) has long been a considerable branch of industry; and also the distillation of spirits from grain, which is pursued in almost every part of the country. Ale is brewed to a large extent, chiefly in Edinburgh and its vicinity, and at Alloa, in Clackmannanshire.

On the western coasts and islands of Scotland the manufacture of *kelp* (from the burning of sea-weed) — for use in glass-works, &c., — was formerly pursued to a considerable extent, and formed the principal occupation of the inhabitants of those parts. But this branch of industry

has been greatly checked by the extensive importation of barilla from the Mediterranean coasts of Spain.

Ship-building is largely carried on at Greenock and Port Glasgow. Steam-vessels are built at Glasgow, and at that city, as well as at other places on the Clyde, the fitting of steam-ships with their engines and machinery is more extensively pursued than at any other place in Great Britain. Besides those belonging to our own country, many of the finest steam-vessels owned by foreign nations have been supplied with their machinery from the banks of the Clyde.

(164.) *Commerce.* — The foreign commerce of Scotland resembles that of England: the imports consist of the raw materials required for manufacturing purposes, chiefly cotton, — and various articles of colonial produce, as tea, coffee, sugar, &c. The exports are principally manufactured goods, cotton and iron-works, machinery, coals, &c. Agricultural produce is extensively supplied to England, including large numbers of cattle.

Glasgow is the great seat of the foreign commerce of Scotland, and is inferior in the total amount of its trade only to London, Liverpool, and Bristol. The commercial ports next in order of importance are Leith, Greenock, Port Glasgow, Aberdeen, and Dundee. Montrose (Forfarshire), Grangemouth (at the entrance to the Forth and Clyde Canal, Stirlingshire), Perth, and Arbroath, have also a considerable amount of foreign as well as coasting trade.

The ports of Irvine, Ardrossan, Troon, and others on the coast of Ayrshire, export considerable quantities of coals, chiefly to Ireland and the Western Islands. The inhabitants of Peterhead are extensively engaged in the cod-fishery, and also the whale-fishery in the Northern seas.

(165.) *Internal communication.* — Excellent roads now extend through almost every part of the country, and cross even the most mountainous tracts of the Highlands.

Of *canals*, the two principal are, the *Forth and Clyde Canal*, which connects the entrance of those rivers, through the plain which we have described under that name (Art. 148.), and the *Caledonian Canal*, through the narrow valley which divides Northern Scotland from the rest of the island (Art. 151.). There are some others, but of comparatively little importance, and the mountainous character of the greater part of the country prevents this method of internal communication from being so extensively adopted as in England.

Nearly all the principal cities in Scotland are now connected by *railways*. Two great trunk lines enter the country from England, one on either side of the island, and proceed respectively to Glasgow and Edinburgh: from these cities, other lines proceed northward, by Stirling, Perth, Dundee, and Forfar, and extend as far as Aberdeen, between which place and London there is now an uninterrupted railway communication of nearly 550 miles in length.

(166.) *National divisions.* — The 33 counties of Scotland have been already mentioned (Art. 146.). The ecclesiastical division is into

synods, presbyteries, and parishes, which latter are also in part civil divisions, and are 919 in number.

The counties are of extremely irregular shape, and unequal size : Inverness, the largest, contains 4054 square miles, Argyle 3189, Ross 2629, and Perth 2588 ; while Clackmannan, the smallest of these divisions, is only 48, and Kinross only 79, square miles in extent.

Of the islands, Bute, Arran, and the Great and Little Cumbray, form the county of Bute ; and the Orkney and Shetland Islands constitute a separate county. In the Hebrides, the island of Lewis belongs to Ross, — Harris and the rest of the Long Island, with Skye, form part of the county of Inverness,—and Mull, Jura, Islay, and the smaller adjacent islands, belong to the shire of Argyle.

Many parts of Scotland are still familiarly known by the ancient names of particular districts, which were formerly of universal prevalence. The principal of these are included in the following Table:—

Angus, now Forfar.		Lauderdale, part of Argyle.
Annandale, part of	Dumfries.	Liddesdale, „ Roxburgh.
Ardross, „	Perth.	Lochaber, „ Inverness.
Athol, „	Perth.	Lorn „ Argyle.
Badenoch, „	Inverness.	Lothian (East), now Haddington.
Breadalbane, „	Do.	Do. (Mid.), „ Edinburgh.
Buchan, „	Aberdeen.	Do. (West), „ Linlithgow.
Cantire, „	Argyle.	Mar, part of Aberdeen.
Carrick, the s. w. part of Ayr.		Mearns, now Kincardine.
Clydesdale, „	Lanark.	Menteith, part of Perth.
Cowal, part of Argyle.		Merse, now Berwick
Cunningham, the n. part of Ayr.		Moray, „ Elgin.
Eskdale, part of Roxburgh.		Nithsdale, part of Dumfries.
Ettrick Forest, now Selkirk.		Strathbogie, „ Aberdeen.
Galloway, now Kirkcudbright and Wigton.		Strathearn „ Perth.
Gowrie, part of Perth and Forfar.		Strathspey „ Elgin.
Knapdale „	Argyle.	Teviotdale „ Roxburgh.
Kyle, the middle part of Ayr.		Tweeddale, now Peebles.
Lennox, now Dumbarton.		

(167.) *Towns and principal places.* — The counties of Scotland are recapitulated in the following lists, with the principal towns in each, and their population according to the census of 1851. The names of county-towns are in italics.

The SOUTHERN LOWLANDS embrace thirteen counties, of which Berwick, Haddington, Edinburgh, and Linlithgow, are chiefly agricultural, — Roxburgh, Selkirk, Peebles, Dumfries, Kirkcudbright, and Wigton, chiefly pastoral,—and Ayr, Lanark, and Renfrew, principally manufacturing and trading counties.

Counties.	Towns.
Berwick - - -	Dunse, 3400 — Eyemouth, 1400 — <i>Greenlaw</i> , 1300.
Haddington - - -	<i>Haddington</i> , 3900 — Dunbar, 2900 — North Berwick, 1700 — Prestonpans, 2000.
Edinburgh - - -	<i>Edinburgh</i> , 158,000 — Leith, 30,000 — Dalkeith, 6500 — Newhaven, 2100 — Granton.
Linlithgow - - -	<i>Linlithgow</i> , 4000 — Pathgate, 2200.
Roxburgh - - -	Hawick, 6700 — Kelso, 4900 — <i>Jedburgh</i> , 2900 — Melrose, 900.
Selkirk - - -	<i>Selkirk</i> , 3400 — Galashiels, 5900.
Peebles - - -	<i>Peebles</i> , 2000 — Inverleithen, 1100.
Dumfries - - -	<i>Dumfries</i> , 11,000 — Annan, 4500 — Moffat, 2300.

Counties.	Towns.
Kirkcudbright - -	<i>Kirkcudbright</i> , 2800.
Wigton - - - -	<i>Stranraer</i> , 3800 — <i>Wigton</i> , 2200 — <i>Port Patrick</i> , 1500.
Ayr - - - - -	<i>Kilmarnock</i> , 20,000 — <i>Ayr</i> , 9000 — <i>Irvine</i> , 7600 — <i>Girvan</i> , 7400 — <i>Saltcoats</i> , 4300 — <i>Ardrossan</i> , 2000 — <i>Troon</i> , 2400.
Lanark - - - -	<i>Glasgow</i> , 345,000 — <i>Airdrie</i> , 14,400 — <i>Hamilton</i> , 9600 — <i>Lanark</i> , 5300.
Renfrew - - - -	<i>Paisley</i> , 32,000 — <i>Greenock</i> , 36,000 — <i>Port Glasgow</i> , 6900 — <i>Johnston</i> , 5800 — <i>Renfrew</i> , 3000.

The NORTHERN LOWLANDS embrace part of Stirling, a small part of Perthshire, the counties of Clackmannan, Kinross, Fife, Forfar, Kincardine,—and parts of Aberdeen, Banff, Elgin, Nairn, and Caithness. The linen manufacture is carried on in some of these, but the greater part are either agricultural or pastoral.

Counties.	Towns.
Stirling - - - -	<i>Stirling</i> , 12,000 — <i>Falkirk</i> , 8700 — <i>Kilsyth</i> , 4000 — <i>Grangemouth</i> , 1400 — <i>St. Ninian's</i> , 1300 — <i>Bannockburn</i> , 2600.
Perth - - - - -	<i>Perth</i> , 23,000 — <i>Dumblane</i> , 1900 — <i>Dunkeld</i> , 1100 — <i>Crieff</i> , 4500.
Clackmannan - -	<i>Alloa</i> , 6600 — <i>Clackmannan</i> , 1500.
Kinross - - - -	<i>Kinross</i> , 2600.
Fife - - - - -	<i>Dunfermline</i> , 13,800 — <i>Kirkcaldy</i> , 5000 — <i>St. Andrew's</i> , 4700 — <i>Cupar</i> , 7400 — <i>Falkland</i> , 3000.
Forfar - - - - -	<i>Dundee</i> , 79,000 — <i>Montrose</i> , 15,000 — <i>Forfar</i> , 9600 — <i>Arbroath</i> , 8300 — <i>Brechin</i> , 4500 — <i>Cupar-Angus</i> , 1800.
Kincardine - - -	<i>Stonchaven</i> , 3000 — <i>Bervie</i> , 1300 — <i>Finnan</i> ,
Aberdeen - - - -	<i>Aberdeen</i> , 72,000 — <i>Peterhead</i> , 4800 — <i>Fraserburgh</i> , 3000 — <i>Inverury</i> , 2000.
Banff - - - - -	<i>Banff</i> , 4000.
Elgin - - - - -	<i>Elgin</i> , 5300 — <i>Forres</i> , 5300.
Nairn - - - - -	<i>Nairn</i> , 3400.
Caithness - - - -	<i>Wick</i> , 6,700 — <i>Thurso</i> , 2900.

The SOUTHERN HIGHLANDS embrace the counties of Bute, Dumbarton, Argyle, part of Stirling, and the greater part of Perth,—all chiefly pastoral : on the coast, the herring-fishery is pursued.

Counties.	Towns.
Bute - - - - -	<i>Rothsay</i> , 7000 — <i>Kilbride</i> (Arran I.), 2800.
Dumbarton - - -	<i>Kirkintulloch</i> , 6300 — <i>Dumbarton</i> , 4700.
Argyle - - - - -	<i>Campbeltown</i> , 6800 — <i>Oban</i> , 1700 — <i>Inverary</i> , 1100.

The NORTHERN HIGHLANDS comprehend the counties of Inverness, Ross, Cromarty, and Sutherland, with parts of Aberdeen, Banff, Elgin, Nairn, and Caithness.

Counties.	Towns.
Inverness - - -	<i>Inverness</i> , 13,000 — <i>Portree</i> (Isle of Skye), 3500.
Ross - - - - -	<i>Tain</i> , 2500 — <i>Dingwall</i> , 2000 — <i>Stornoway</i> (Isle of Lewis), 2200.
Cromarty - - - -	<i>Cromarty</i> , 2000.
Sutherland - - -	<i>Dornoch</i> , 600.
Orkney and Shetland } - {	<i>Lerwick</i> (Shetland Islands), 2900 — <i>Kirkwall</i> (Orkney Islands), 2400.

(168.) *Edinburgh*, the metropolis of Scotland, is distinguished chiefly for its ancient University, which takes high rank as a seat of learning. The castle, built upon a lofty rock which rises in the heart of the town, and the ancient royal palace of Holyrood, are its two most celebrated

structures. The new town of Edinburgh is distinguished by great architectural beauty. Edinburgh is the seat of the supreme courts of law for Scotland. *Leith*, the port of Edinburgh, but an independent borough, is on the south shore of the frith of Forth.

Glasgow, also the seat of a University, is the great seat of Scotch manufactures and commerce, and the centre of a trade which extends to every part of the globe. Glasgow stands on either bank of the Clyde. Its former harbour was Port Glasgow, 16 miles lower down the river, but vessels of 1000 tons burden now ascend to the quays of Glasgow. The larger part of the city is upon the north side of the river.

Greenock, on the s. bank of the Clyde, 3 miles below Port Glasgow, is a large sea-port town, with a good harbour and docks, and has considerable maritime commerce.

Dumfries, on the east bank of the Nith, near its mouth, is a thriving place of trade, and constitutes a sort of southern capital. It is a considerable market for the agricultural produce of the s. w. part of Scotland, which is thence exported in large quantities to England.

Dundee, on the north side of the frith of Tay, is a place of great commercial importance, and exports linen and hempen goods extensively.

St. Andrew's, situated on the eastern coast of Fife, is an ancient and venerable city, and the seat of the oldest of the Scotch Universities, but is not otherwise important.

Aberdeen, between the mouths of the Dee and the Don, is a place of considerable trade, and has extensive docks, piers, and quays. It is also the seat of the remaining University, which embraces two colleges, King's College, in Old Aberdeen, and Marischal College, in New Aberdeen.

Inverness, at the mouth of the river Ness and at the northern entrance to the Caledonian Canal, is a considerable and well-built town, regarded as the capital of the Highlands.

(169.) The sites of the principal battles and skirmishes fought upon Scottish ground, within the period of modern history, are given below :—

	Date		Date
Aird's Moss (Ayrshire, N.E. of Cumnock) - - - - -	1680	Haddenrig (Roxburgh, 4 miles n. of Kelso) - - - - -	1542
Alford (Aberdeenshire) - - - - -	1645	Inverlochy (Inverness-shire) - - - - -	1645
Ancrum Moor, near Jedburgh (Roxburghshire) - - - - -	1545	Killiecrankie (Perthshire) - - - - -	1689
Auldearn (Nairnshire) - - - - -	1645	Kilayth (Stirlingshire) - - - - -	1645
Bannockburn (Stirlingshire) - - - - -	1314	Largside, near Glasgow (Lanarkshire) - - - - -	1568
Bothwell Bridge (Lanarkshire) - - - - -	1679	Largs (Ayrshire) - - - - -	1263
Bridge of Dee (Aberdeenshire) - - - - -	1644	Pentland Hills - - - - -	1668
Culloden Moor, near Inverness - - - - -	1746	Philliphaugh, near Selkirk - - - - -	1645
Dunbar (Haddingtonshire) - - - - -	1296	Pinkie (Edinburghshire) - - - - -	1547
----- - - - - -	1650	Preston Pans (Haddingtonshire) - - - - -	1745
Dunkeld (Perthshire) - - - - -	1689	Sheriffmuir, near Dumblane (Perthshire) - - - - -	1715
Drumclog (Lanarkshire, 5 m. S.W. of Strathaven) - - - - -	1679	Tippermuir, near Perth (Perthshire) - - - - -	1644
Falkirk (Stirlingshire) - - - - -	1298		
----- - - - - -	1746		

SECTION III.—IRELAND.

(170.) *Extent and Boundaries*.—Ireland is bounded on the north, west, and south, by the Atlantic Ocean, and on the

east by the Irish Sea, which communicates with the ocean by the North Channel and St. George's Channel. The nearest approach made by Ireland to the shores of Britain is at its north-eastern extremity, where the promontory called Fair Head is only thirteen miles distant from the Mull of Cantire in Scotland; this is the narrowest portion of the North Channel: further south, between Donaghadee (in the county of Down) and Port Patrick, on the coast of Wigton, is a distance of only twenty-two miles. St. David's Head, on the coast of Wales, is fifty-three miles distant from Carnsore Point, at the s. e. extremity of Ireland,—the intervening sea forming the narrowest part of St. George's Channel.

The superficial extent of Ireland is 32,513 square miles, and the entire length of its coast line, measured along the numerous estuaries of its western and northern shores, probably exceeds 2000 miles.

The most northern point of Ireland is Malin Head, lat. $55^{\circ} 22'$; the most southern, Mizen Head, is in lat. $51^{\circ} 26'$. A straight line drawn between these points measures 290 miles: the mean length of the island, however, from Malin Head to the south coast of Waterford, is about 220 miles. The most eastern point, on the coast of Down, is in $5^{\circ} 26'$ w. longitude;—the most western, Dunmore Head, in $10^{\circ} 29'$. Between Lowestoft Ness, the most eastern point of the British Archipelago, and Dunmore Head, its most western, there is therefore a difference of $12^{\circ} 15'$ of longitude, or about 520 English miles (equivalent to 49 minutes of time).

The greatest breadth of Ireland, in the direction of east and west, is 175 miles, and the least (between the heads of Donegal Bay and Belfast Lough) less than 90 miles. Between the opposite bays of Dublin and Galway, the distance is 110 miles. The mean breadth of the island is about 140 miles.

The mean length and breadth of Ireland bear a less unequal proportion to one another than is the case either with England or Scotland, and the island, regarded as a whole, has a squarer and more compact form.

(171.) *Capes.*—The principal headlands are—

<i>On the north coast.</i>			<i>On the east coast.</i>		
Fair Head, or Benmore	-	Antrim.	Cahore Point	-	Wexford.
Bengore Head	-	do.	Wicklow Head	-	Wicklow.
Malin Head	-	Donegal.	Howth Head	-	Dublin.
Horn Head	-	do.	<i>On the west coast.</i>		
<i>On the south coast.</i>			Rossan Point	-	Donegal.
Mizen Head	-	Cork.	Erris Head	-	Mayo.
Cape Clear, on island	-	do.	Achill Head	-	do.
Old Head of Kinsale	-	do.	Slyne Head	-	Galway.
Carnsore Point	-	Wexford.	Loop Head	-	Clare.
			Kerry Head	-	Kerry.
			Dunmore Head	-	do.

Adjacent to Bengore Head, on the west, is the *Giant's Causeway*,

composed of huge columns of basalt which project upwards of a thousand feet into the sea.

The north, north-west, south-west, and south shores of Ireland are generally high and rocky, and consist in many parts of rugged and precipitous cliffs, hollowed into various forms by the constant action of the Atlantic waves.

The eastern coasts are generally low and flat, and on this side of the island the sea in the immediate vicinity of the shore is much obstructed by sunken rocks, bars, and sand-banks. These are especially numerous on the north-east coasts, off the shores of Down and Antrim, and along the coast to the south of Dublin.

(172.) *Estuaries, Bays, &c.* — The principal inlets on the east coast are — Dublin Bay, Dundalk Bay, Dundrum Bay, Strangford Lough, and Belfast Lough. On the north coast are Lough Foyle and Lough Swilly.

On the west side of the island are — Donegal Bay, Clew Bay, Galway Bay, the mouth of the Shannon, Dingle Bay, Kenmare Bay, and Bantry Bay.

On the south coast, the most considerable inlet is that which forms Cork Harbour.

The west and south-west coasts are more indented and irregular in shape than any other part of the island. The numerous inlets form various peninsulas, of which the most remarkable is that called the Mullet (on the north-west coast of Mayo), which is only connected with the mainland by an isthmus of less than half a mile in breadth.

The sea on the western coasts both of Ireland and Scotland is generally deep, and at a distance of about sixty miles from the Irish coast sinks suddenly from 100 to upwards of 200 fathoms. Here the proper bed of the ocean may be said to commence, the whole archipelago of the British Islands being based upon a submarine bank.

(173.) Ireland is divided into four provinces, Ulster, Leinster, Munster, and Connaught; and into thirty-two counties, of which Ulster contains nine, Leinster twelve, Connaught five, and Munster six. Ulster occupies the north and north-east part of the island, Leinster the east and south-east, Connaught the west and north-west, and Munster the south-west, portions.

LEINSTER.	ULSTER.	ROSCOMMON.
Dublin.	Armagh.	Sligo.
Wicklow.	Down.	Mayo.
Wex'ord.	Antrim.	Galway.
Kilkenny.	Londonderry	
Carlow.	Donegal.	MUNSTER.
Kildare.	Tyrone.	Clare.
Que n's County.	Fermanagh.	Limerick.
King's County.	Monaghan.	Tipperary.
Westmeath.	Cavan.	Waterford
Longford.		Cork.
Meath.	CONNAUGHT.	Kerry.
Louth.	Leitrim.	

(174.) *Natural features of surface.* — Ireland is generally level in the interior; its mountains are mostly confined to the immediate neighbourhood of the coasts. Between Dublin Bay on the east, and Galway Bay on the west, a great plain stretches entirely across the island: the highest parts of this central plain are not more than 320 feet above the level of the sea. It extends northward to the shores of Lough Neagh, in the province of Ulster, and southward nearly to the borders of Waterford, in the province of Munster: its southern half, however, is diversified by hills of considerable elevation.

The mountains of Ireland do not form continuous chains, but constitute detached groups and highland masses, which at different parts of the coast intervene between the interior plain and the sea. They may be arranged into six distinct groups or systems, namely, the Mountains of Wicklow, — the Mourne Mountains (in the county of Down), — and the Mountains of Antrim, — on the east coast of the island; — the Mountains of Donegal, in the north-west; — the Mountains of Connemara, on the west coast, between Donegal and Galway Bays; — and the Mountains of Kerry, in the south-west.

The *Mountains of Wicklow* cover an extensive tract, which measures nearly 60 miles from north to south, and about 30 miles from east to west. Their highest summit, Lugnaquilla (in the centre of the mountain region), is 3039 feet above the sea, and is the third in elevation of the Irish mountains. Some other summits in the group exceed 2000 feet; the Sugar Loaf, a well-known mountain, is 1651 feet. This mountain region contains numerous small lakes and waterfalls, and is highly distinguished for the variety and beauty of its natural scenery.

The *Mourne Mountains* occupy a projecting portion of the coast, intermediate between Dundalk and Dundrum Bays, and rise in elevated masses from the immediate neighbourhood of the shore. Their highest summit, Slieve-donard, is 2788 feet above the sea.

The *Mountains of Antrim* form a kind of plateau which intervenes between Lough Neagh and the shores of the North Channel, and the highest portions of which are on its eastern side, immediately adjacent to the coast. The mountain called Divis, to the west of Belfast, is 1559 feet high; further northward, some summits are from 1700 feet to 1800 feet in elevation. This mountain tract terminates on the north-east in the high promontory of Fair Head.

The *Mountains of Donegal* form a high mountain-mass, intersected by parallel valleys, which extend in a general direction of north-east and south-west. They contain several summits which exceed 2000 feet in height, the loftiest of which is Errigal (lat. $55^{\circ} 3'$, long. $8^{\circ} 5'$), 2462 feet. The mountain called Slieve League, to the south-east of Rossan Point, rises precipitously close to the shore and is 1964 feet high.

Between the Mountains of Donegal and the mountain region of Antrim some high ranges extend (to the south of Lough Foyle), in an east and west direction, through the county of Londonderry. In this tract, the mountain called Sawell (lat. $54^{\circ} 49'$, long. $7^{\circ} 2'$) is 2236 feet in height.

The mountain tract which extends along the western shores of Mayo and Galway, between Donegal and Galway Bays, is divided into two parts by the broad inlet of Clew Bay (lat. $53^{\circ} 50'$): to the north of Clew Bay are the Nephin Beg mountains and the high summit of Nephin,—to the south, the *Mountains of Connemara*, which embrace a number of detached groups and isolated eminences, divided by deep and narrow valleys. In the range of the Nephin Beg mountains the highest summit is 2368 feet; the mountain called Nephin, further to the eastward, is 2639 feet high. In the Mountains of Connemara, Mweelrea, adjacent to the west coast, is 2680 feet in height, and some others upwards of 2000 feet.

The *Mountains of Kerry* form several parallel ranges which extend (in a general east and west direction) through the county of that name, and into the adjacent county of Cork. Between these ranges the sea penetrates far within the land, and forms the numerous long and narrow estuaries which distinguish the south-west coasts of Ireland. The highest summit among the mountains of Kerry, and also the highest in the island, is the mountain called Carrantuoill, in the group of Macgillicuddy's Reeks (on the west side of the Lakes in Killarney), which is 3404 feet above the sea. Mangerton, on the south-east side of the same lakes, is 2754 feet. Mount Brandon, in the peninsula which intervenes between Dingle Bay and the estuary of the Shannon, is 3120 feet, and is the second in height among the mountains of Ireland.

Besides the mountain systems above described are some other ranges of less extent, as the Slieve Bloom Mountains (on the borders of King's County and Queen's County), 1691 feet,—the Silver Mine Mountains (in the north-west part of Tipperary), 2265 feet,—the Galty Mountains (on the borders of Tipperary and Limerick), 3008 feet,—and the Knockmeiledown Mountains (on the borders of Tipperary and Waterford), 2598 feet. The Galty and Knockmeiledown Mountains, with other ranges in the south of Ireland, form prolongations of the mountains of Kerry, and have the same general parallelism of direction from east to west.

(175.) A large portion of the surface of Ireland consists of bog-land, which prevails most extensively in that part of the central plain which lies between Dublin and Galway Bays, and among the mountain-tracts of the western coast. Bogs occur also in other parts of the island, among the mountains of Wicklow, and those of the north-eastern coast. The bogs of Ireland bear no analogy to the fen districts of England; they lie in all cases at some elevation above the level of the sea, varying in height from a hundred to two thousand feet, and are hence readily susceptible of drainage.

The total extent of bog-land is estimated to cover about 12,500 square miles, or nearly two-fifths of the whole surface of the island: the larger portion of this is flat red bog, capable of being reclaimed for cultivation; the remainder consists of mountain-bog, mostly convertible into pasture land. The bogs are distinguished, according to the substance of which they are composed, into red or fibrous, and black or compact. The red bogs, which occur most extensively in the region of the central plain,

furnish abundance of peat, which forms the fuel most generally used in Ireland.

(176.) *Islands*. — These are all of small size, and lie closely adjacent to the coast. On the east side are — *Dathey Island* (on the south side of the entrance to Dublin Bay), — *Ireland's Eye*, a hill of pyramidal form (on the north side of the peninsula of Howth), — and *Lambay Island*, a few miles further to the northward.

On the north coast are, — *Rathlin Island* (7 miles long and $\frac{3}{4}$ broad), which consists of steep basaltic rocks, — *Inishtrahull*, a small islet to the north-east of Malin Head, — *Inch Island*, situated in Lough Swilly, — and *Tory Island*, off the north-west coast of Donegal.

On the west side are, — *Aran Island*, off the west coast of Donegal, — Eagle Island and several other small islets situated to the west of the peninsula of the Mullet, — *Achil Island* (about 95 square miles in area), covered with mountains, the highest of which rises to 2222 feet, — *Clare Island* and several others to the west of Clew Bay and along the adjacent shores of Galway, — and the group of the *Arran Islands* (consisting of three, of which the largest is about 19 square miles), at the entrance of Galway Bay.

Off the south-west coast is a group of 12 islets, called the *Blashets*, to the west of Dunmore Head. Further south is *Valentia Island* (on the south side of the entrance of Dingle Bay), which has an area of 40 square miles; it is of moderate elevation, and is very fertile. *Cape Clear Island*, the most southern portion of Ireland, contains about 8 square miles: it is surrounded by high cliffs, and is generally barren.

(177.) *Rivers*. — The longest river of Ireland is the Shannon, which flows 224 miles from its source (in the county of Cavan, at a height of 345 feet above the sea) to the Atlantic Ocean, between Loop and Kerry Heads, — forming in the last sixty miles of its course a magnificent estuary, from 1 mile to 11 miles broad. It is navigable from the sea to Lough Allen, a distance of 213 miles, by the aid of some short artificial cuts, the principal of which is formed to avoid the rapids of Doonas, a few miles above Limerick. The fall of the Shannon, like that of the Spey, is greater in the lower than in the upper part of its course. It passes through three considerable lakes (Lough Allen, Lough Ree, and Lough Derg), and drains a surface of nearly 7000 square miles. Its most considerable tributary is the river Suck, which joins its right bank.

The other principal rivers of Ireland, proceeding in succession round the coast, are, — on the south, the *Bandon*, the *Lee* (60 miles), the *Blackwater* (90 miles), and the *Barrow* (114 miles), with its tributary the *Suir* (100 miles).

The Lee drains an area of nearly 600 square miles, and forms at its mouth the magnificent harbour of Cork, one of the finest in the world: it is not navigable above Cork. The Barrow and the Suir, both of which

rise in the Slieve Bloom Mountains, and unite to form the estuary of Waterford Harbour, drain a very extensive tract of country, comprehending above 3400 square miles. The river Nore, a considerable tributary of the Barrow, joins its right bank. The Barrow is navigable to Athy, 60 miles from the sea; the Suir to Clonmel, a distance of 40 miles; the Nore to Thomas Town, 28 miles above its junction with the Barrow.

On the east coast are, the *Slaney* (70 miles); the *Liffey* (75 miles); the *Boyne* (80 miles); and the *Lagan* (42 miles), flowing into Belfast Lough. The Liffey has the metropolis, Dublin, at its mouth, but is not a navigable river. The Boyne, which drains about 1000 square miles, is navigable to Navan, 25 miles above its mouth.

On the north coast the two principal rivers are the *Bann* (from Lough Neagh); and the *Foyle*, which flows into Lough Foyle. The Bann is divided into the Upper and the Lower Bann; the Upper Bann is the portion above Lough Neagh, and has its source in the Mourne Mountains. The total length of the Bann is 100 miles, and the area of its basin above 2300 square miles: it is navigable to Coleraine, five miles above its mouth. The Foyle is formed by the union of several streams, and drains an area of 1100 square miles.

(178.) *Lakes*.—*Lough Neagh**, the largest lake in the British Islands, is 20 miles long and 10 in average breadth, and has an area exceeding 150 square miles. Its elevation above the sea-level is only 48 feet; its greatest depth is 102 feet,—its average depth, however, not more than from 40 to 50 feet. Its shores are low and flat. The waters of Lough Neagh are celebrated for their petrifying quality.

Lough Erne consists of two parts,—an Upper and a Lower Lake, which are connected by the winding channel of the river Erne: they are both (the Upper Lake especially) interspersed with numerous islands. From the western extremity of the Lower Lake, the river Erne flows into Donnegal Bay.

Lough Allen, *Lough Ree*, and *Lough Derg*, all belong to the course of the Shannon, and are long and narrow in shape. Lough Allen has an area of 14 square miles; Lough Ree, of 41 square miles; and Lough Derg, of 46 square miles. The shores of Lough Ree are low and flat, but Lough Derg is bordered on the south by high mountains.

There is also another and smaller *Lough Derg* ($3\frac{1}{4}$ square miles), in the south of Donegal. On a small island which it contains is a cave called St. Patrick's Purgatory, a noted place of pilgrimage to the Catholic population of Ireland.

Lough Mask, in the western part of Connaught, has an area of 35 square miles, and communicates by a subterranean channel with *Lough Corrib*, which lies at a lower level. Lough Corrib is divided into two parts by a narrow channel: its total area is 68 square miles. Its waters are discharged into Galway Bay by the river Corrib, at the mouth of which is the town of Galway.

The *Lakes of Killarney*, situated amongst the Mountains of Kerry, are three in number, an Upper, Middle, and Lower Lake, all connected with

* Like the term "loch" in Scotland, the word "lough" in Ireland is applied both to inlets of the sea and to proper fresh-water lakes.

one another, and of which the latter expands to the largest size. Their total area is about 10 square miles. The Lakes of Killarney are celebrated for their picturesque beauty ; on their west side the highest mountains in Ireland rise steeply from the edge of the water.

There are numerous other lakes in Ireland, of smaller size, which with those mentioned above are estimated to embrace a total area of 711 square miles.

(179.) *Minerals*.—*Coal* occurs in many parts of Ireland (in the counties of Kilkenny, Tipperary, Limerick, Cork, Kerry, Clare, Leitrim, Tyrone, and Antrim), but is generally of very inferior quality to that furnished by the coal-fields of Great Britain, and is comparatively little worked. A considerable portion of the coal raised is only used for the purpose of burning lime. The best for domestic purposes is found to the west of Lough Neagh, in the neighbourhood of Dungannon. Peat, however, is the fuel exclusively used by the labouring population, and the towns are chiefly supplied with coal from the ports of England and Scotland.

Iron ore also occurs in many places, especially in the coal district of Leitrim, lying round Lough Allen, but the scarcity of coal has caused its working to be almost wholly abandoned.

Mines of *copper* and *lead* are worked in the counties of Waterford, Cork, and Kerry, and copper also in Wicklow, but the produce is not considerable. The copper ore is sent to Swansea to be smelted. Small quantities both of gold and silver have also been found in the mountain region of Wicklow.

Granite is abundant in many parts of the country, and in the counties of Donegal and Galway excellent statuary marble is found. Limestone is generally abundant, and carboniferous limestone forms the principal rock in the level plain of the interior. On the southern and western borders of Lough Neagh is an extensive deposit of clay, which is found only at a few other places in Ireland, and in small quantities. Antimony, manganese, and fullers' earth, are also found in some places, and slate is quarried to a small extent, chiefly in the valley of the Blackwater, near Lismore.

Mineral springs occur at Mallow (in the county of Cork), the water of which is saline, and of a temperature 23° above that of the atmosphere ; — at Castle Connell, near Limerick, of chalybeate quality ; — and sulphureous waters at Swanlinbar, in the county of Cavan, and Lucan, near Dublin.

(180.) *Climate*.—The climate of Ireland differs chiefly from that of England in its greater degree of moisture. About 31 inches of rain fall annually at Dublin, and 40 inches at Cork. Not only does more rain fall than occurs in England, but the atmosphere is at all times largely impregnated with moisture. This results from the perfectly insular situation of the country, and the prevalence during three-fourths of the year of westerly winds, charged with the vapours of the Atlantic. The almost constant humidity of the air is the cause of the generally verdant aspect by which Ireland is distinguished ; the trees hence remain longer in leaf than in England.

The western coasts of Ireland are warmer than similar latitudes in Great Britain, and the whole island has a more equable average temperature,—that is, its extremes of heat and cold are confined within narrower limits than in England or Scotland.

The plants and animals are generally the same as those which belong to Great Britain. There are some local peculiarities, but these are not of importance. The arbutus, a beautiful evergreen which flourishes in the neighbourhood of the Lakes of Killarney and the south-west coast, is not native to any other country in so high a latitude. The broad-leaved myrtle grows luxuriantly in the southern counties ; but peaches, grapes, and other similar fruits, do not ripen without much care and attention.

Ireland was formerly thickly covered with forests, but the greater part of these have been cut down, and wood is now comparatively scarce. The remains of ancient vegetation are found in the extensive bogs, in which whole trunks of trees are frequently discovered.

There are no serpents in Ireland, and one species of lizard, with four of the order of frogs, newts, &c., constitute the only reptiles met with in this country, and even some of these are probably of recent introduction.

(181.) *Population.*—Ireland is less populous now than at a former period. In 1851, the total number of its inhabitants was 6,550,319, an average of 201 to the square mile. But in 1841 its population amounted to 8,175,238, equivalent to more than 250 inhabitants to the square mile—an astonishing proportion, considering the large extent of mountainous and unproductive land.

The diminution in the population of Ireland during the ten years intervening between 1841 and 1851 was in the ratio of nearly twenty per cent. This result was mainly due to the extensive emigration which had long been going on (and which still continues), aided by the suffering and increased mortality that occurred during the famine of 1846-8.

The population is most dense in the immediate neighbourhood of Dublin, Cork, Belfast, and other large towns. The western and southern parts of the island are those most thinly inhabited, and in which the population is most scattered.

The great majority of the people of Ireland belong to the Celtic race, though in the parts most adjacent to England, and in the large towns, they have become partially mixed with the descendants of English colonists. The English language is now generally prevalent, and the native Celtic dialect in gradual process of extinction, though still spoken by the peasantry in the south and west parts of the island.

In the eastern part of Ulster the population is almost wholly of Scotch origin, and the manners and character of the inhabitants of the lowlands of Scotland have been transplanted there accordingly. Colonists from Scotland have at various times settled in different parts of Ireland, but the great colonisation of Ulster by the Scotch took place in the reign of James I. The inhabitants of Ulster occupy a higher rank in the social scale than those of any other part of Ireland, and are generally a more frugal, industrious, and intelligent race.

(182.) *Industrial occupations: agriculture.*—Ireland is chiefly a grazing country, and large numbers of cattle of all kinds are reared, principally for export to England. Oxen

are most extensively bred in the counties of Limerick, Tipperary, Roscommon, and Meath: the native cattle have been to a great extent superseded by the introduction of English breeds. Roscommon, Galway, Clare, Tipperary, and Limerick, are the chief counties for breeding sheep, but these are not so extensively reared as oxen: the native sheep is small and partially covered with hair, but it has been crossed with English breeds, and most of the Irish sheep are at present long-woolled and of large size. A breed of fine short-woolled sheep is peculiar to the mountains of Wicklow. Goats are very generally reared in the mountainous districts, and are kept chiefly for their milk. The hog, however, is the animal most universally found, and almost throughout the country shares the habitations of the peasantry, feeding chiefly on potatoes. Dairy-farms are numerous, and butter is made and exported in large quantities.

Next to the potatoe, which is the prevalent crop, oats are most generally cultivated. The humidity of the climate renders it less fitted for the growth of wheat and barley, both of which, however, are raised, and the cultivation of the former has extended of late years. The greater part of the grain raised in Ireland is not consumed in that country, but exported to England. The culture of the beet-root, for the purpose of making sugar, has been introduced of late.

Owing to the failure of the potatoe during 1846 and subsequent years, the agricultural produce of Ireland was insufficient for the wants of its population. Indian corn, or maize, was largely imported to supply the deficiency, and this article continues to be an important item in the Irish imports. Flax is grown to some extent throughout the province of Ulster, for the supply of the staple manufacture.

(183.) *Fisheries*.—The seas around Ireland swarm with fish, and the inlets on its shores are the resort of vast shoals of the cod, herring, ling, hake, mackerel, and many others. There are extensive oyster-beds on the coast of Clare, and also in Lough Swilly. But this branch of industry is very imperfectly developed, and the Irish fisheries are far from being in a flourishing condition. Indeed, their produce is quite inconsiderable compared with the abundant opportunities afforded by nature, and salt fish is even imported from Scotland. Fresh-water fish likewise abound in the rivers, and there are salmon-fisheries in the Bann, the Foyle,

the Boyne, and other streams, some of the produce of which is sent to the markets of Liverpool, Bristol, and London.

(184.) *Manufactures*.—Ireland is not distinguished as a manufacturing country. The principal manufacture is that of *linen*, chiefly carried on in the province of Ulster, though latterly extended into Connaught and Munster. Belfast and Armagh, with their immediate neighbourhood, constitute its principal seat.

The *woollen* manufacture, chiefly confined to the coarser kinds of goods, is carried on in various parts of Leinster, at Dublin, Kilkenny, Wicklow, and elsewhere. The manufacture of broad-cloths has been introduced into Dublin, and that of fine stuffs at Bandon: a coarse kind of frieze is generally made by the farming population in most parts of the country during the intervals of agricultural labour, for their own use and the supply of the adjoining districts.

The manufacture of *cotton* goods is prosecuted to a considerable extent at Belfast and its vicinity, and also in some parts of the south of Ireland, at Tullamore (King's County), and elsewhere. The manufacture of *tabinet*, or Irish poplin, a mixed fabric of silk and worsted, is almost peculiar to Dublin. Some manufacture of muslin and cambric is carried on at Dundalk.

The distillation of whisky from malt is largely carried on, though not by any means to so great an extent as formerly, owing to the spread of more temperate habits among the population at large. Beer is largely made in Dublin, and exported both to Great Britain and to foreign countries. Other manufactures, pursued to a less extent, are those of muslin, leather, glass, and vitriol.

(185.) *Commerce*.—The foreign trade of Ireland is inconsiderable compared with that carried on across the Channel, with Great Britain. The *imports* from abroad consist chiefly of tea, coffee, tobacco, sugar, wine, timber, tallow, flax, hemp, and wool; with, of late years, maize or Indian corn, chiefly from the United States. Coal is largely imported from England and Scotland, and also cotton, woollen, and hardware goods, with other British manufactures.

The *exports* are chiefly to Great Britain, and consist principally of agricultural produce (including vast numbers of live cattle and pigs), with salt beef and pork, eggs, &c.; and also linen manufactures.

Dublin is the principal seat of the foreign import trade,

and next in order are Belfast, Cork, and Waterford ; but the export trade both of Belfast and Cork is more considerable than that of Dublin. Waterford is a great seat of the cross-channel trade to England, and exports immense quantities of live stock and agricultural produce,—consigned chiefly to Bristol. Both Drogheda and Dundalk have also considerable export trade of butter and other farm produce.

(186.) *Internal communication.*—The roads in Ireland are generally well laid out, and kept in good repair, unless in the remoter and more mountainous parts of the country.

Two principal *canals* (the Grand Canal and the Royal Canal) connect Dublin with the Shannon, crossing the great plain which occupies the interior of the country,—with branches to many of the principal towns adjacent to their course. These are chiefly used for the conveyance of agricultural produce to the Irish metropolis. There are also some other canals and artificial navigations, but this mode of communication is not, on the whole, so extensively used as might be expected. The Shannon is extensively traversed by steam-boats both for passengers and goods.

Several lines of *railway* have been constructed of late years, and others are in process of formation. A short line between Dublin and Kingstown (on the south side of Dublin Bay, near its entrance,) was opened in 1834. A great trunk line (the Great Southern and Western), which extends from Dublin to Cork, and is crossed by a line between Waterford and Limerick, places the capital of the island in immediate communication with all its south and south-western parts. Other lines extend from Dublin, in a westerly direction, to Galway, and northward, by way of Drogheda, to Belfast. But the railway system in Ireland is as yet far from being fully developed.

The voyage between Dublin and Holyhead (the nearest port on the British coast) is performed by swift steam-packets in less than four hours. From Holyhead to London the journey by railway (which is now open continuously throughout) occupies $8\frac{3}{4}$ hours; so that, by the aid of steam, a communication is effected between the Irish metropolis and the capital of the British Empire (a distance of upwards of 330 miles, 70 of which are water,) in the almost incredibly short space of about 13 hours!

(187.) *National divisions.*—The thirty-two counties into which Ireland is divided are of very unequal dimensions. Cork, the largest, has an area of 2765 square miles,—Galway, the next in size, of 2360 square miles. The smallest is Louth, 322 square miles in extent.* The counties on the east side of the island are generally smaller than those on the west. The names of the four provinces, Ulster, Munster, Leinster, and Connaught, are now only used as geographical divisions,

* The town and territory of Drogheda, situate on the borders of Louth and Meath, also forms a county in itself, with an area of 9 square miles.

though they formerly marked the limits of separate kingdoms.

Thirty of the counties are subdivided into baronies, very unequal in extent; the county of Cavan into hundreds, and Cork into two ridings (east and west), which again are subdivided into hundreds. The parishes form both civil and ecclesiastical divisions, but their limits do not always coincide with those of the counties and baronies.

The ecclesiastical division is into two archiepiscopal provinces, those of Armagh and Dublin, and ten bishoprics, — five in each province.

(188.) *Towns and principal places.* — The counties are enumerated below, with the names of the principal towns, and their population in 1851. The county-towns are denoted by italics.

LEINSTER, TWELVE COUNTIES.

Counties.	Towns.
Dublin - - - -	<i>Dublin</i> , 252,000 — Kingstown, 10,000 — Balbriggan, 2300.
Wicklow - - - -	Arklow, 3200 — <i>Wicklow</i> , 3100.
Wexford - - - -	<i>Wexford</i> , 12,800 — New Ross, 9000 — Enniscorthy, 7000.
Kilkenny - - - -	<i>Kilkenny</i> , 20,000.
Carlow - - - -	<i>Carlow</i> , 9000.
Kildare - - - -	<i>Athy</i> , 2100 — Naas, 2900 — Maynooth, 1600 — Kildare, 1300.
Queen's County -	<i>Maryborough</i> , 2000 — Portarlington, 2700.
King's County - -	<i>Tullamore</i> , 4600 — Parsonstown, 5400 — Philipstown, 750.
Westmeath - - -	Athlone, 6200 — <i>Mullingar</i> , 11,000.
Longford - - - -	<i>Longford</i> , 4000 — Edgeworthstown, 860.
Meath - - - - -	Navan, 3900 — <i>Trim</i> , 6000.
Louth - - - - -	Drogheda, 17,000 — <i>Dundalk</i> , 9,800.

ULSTER, NINE COUNTIES.

Counties.	Towns.
Armagh - - - -	<i>Armagh</i> , 9000 — Portadown, 3000.
Down - - - - -	Newry, 13,000 — <i>Downpatrick</i> , 3800 — Donaghadee, 2800 — Portaferry, 2000.
Antrim - - - -	<i>Belfast</i> , 98,000 — Lisburn, 6900 — Carrickfergus, 8500 — Ballycastle, 1600.
Londonderry - -	<i>Londonderry</i> , 20,000 — Coleraine, 5900.
Donegal - - - -	<i>Lifford</i> , 570 — Ballyshannon, 3600.
Tyrone - - - -	Strabane, 4900 — Dungannon, 3800 — <i>Omagh</i> , 3000.
Fermanagh - - -	<i>Enniskillen</i> , 5900 — Newton Butler, 500.
Monaghan - - -	<i>Monaghan</i> , 3400 — Clones, 2300.
Cavan - - - - -	<i>Cavan</i> , 3700 — Cootehill, 2100.

CONNAUGHT, FIVE COUNTIES.

Counties.	Towns.
Leitrim - - - -	<i>Carrick-on-Shannon</i> , 1800.
Roscommon - - -	<i>Roscommon</i> , 3000 — Elphin, 1200.
Sligo - - - - -	<i>Sligo</i> , 11,000.
Mayo - - - - -	<i>Castlebar</i> , 4000 — Westport, 4000 — Killala, 970.
Galway - - - -	<i>Galway</i> , 23,000 — Tuam, 7800 — Loughrea, 3600.

MUNSTER, SIX COUNTIES.

Counties.	Towns.
Clare - - - - -	<i>Ennis</i> , 7800.
Limerick - - - -	<i>Limerick</i> , 56,000.
Tipperary - - -	<i>Clonmel</i> , 15,000 — Carrick-on-Suir, 6200 — Thurles, 10,000 — Tipperary, 8200 — Cashel, 8000 — Cahir, 3600.
Waterford - - -	<i>Waterford</i> , 26,000 — Dungarvan, 6300 — Lismore, 2300.
Cork - - - - -	<i>Cork</i> , 86,000 — Youghal, 7300 — Bandon, 8000 — Kinsale, 5500 — Mallow, 5400 — Baltimore.
Kerry - - - - -	<i>Tralee</i> , 13,700 — Killarney, 5900 — Dingle, 3200 — Cahirciveen, 1800.

Compared with the general density of its population, Ireland contains few large towns. Dublin, Cork, Belfast, and Limerick, are the only towns which have more than 50,000 inhabitants, and the only additional places of which the population equals 20,000 are Galway, Waterford, Londonderry, and Kilkenny. The greater number of the towns have only from three to four or five thousand inhabitants; the population is chiefly rural, and distributed in villages and small farm-holdings throughout the country.

(189.) *Dublin*, the capital of Ireland, situated on both sides of the mouth of the Liffey, is distinguished by the number and magnificence of its public buildings, and its numerous splendid residences, which entitle it to be regarded as one of the finest cities in Europe. It has two cathedral churches,—Christ Church (the more ancient), and St. Patrick's, distinguished for its numerous monuments. It is the seat of a Protestant University, styled Trinity College, founded in the time of Queen Elizabeth.

The mouth of the river Liffey is obstructed by sand-banks, so that large vessels are unable to reach the town; but an excellent harbour has been constructed at *Kingstown* (formerly called Dunleary), on the south side of Dublin Bay, six miles to the eastward. Kingstown now forms, in fact, the port of Dublin, and is the principal resort of its shipping.

Maynooth, in the county of Kildare, 15 miles to the west of Dublin, is the seat of a college for the education of students for the Roman Catholic priesthood.

Both *Drogheda* (at the mouth of the river Boyne), and *Dundalk* (at the head of the bay of that name), on the coast to the north of Dublin, have considerable trade in the export of corn, hides, butter, and all kinds of agricultural produce. Drogheda is one of the principal corn-markets of Ireland.

Kilkenny, on the river Nore, is, next to Dublin, the most populous town in the province of Leinster. It is a principal seat of the manufacture of woollen goods, and has considerable inland trade.

Belfast, situated on the river Lagan, and at the head of Belfast Lough, is the second city in Ireland in size and wealth, and is rapidly advancing in commercial importance. It is a great seat both of the linen and cotton manufactures, and there are also factories of glass and vitriol, potteries, sugar-refineries, breweries, and distilleries. Belfast has considerable foreign trade, as well as extensive intercourse with the ports of the Scotch and English coast, especially with Liverpool, to which it sends great quantities of cattle and agricultural produce. By the aid of a canal, this town has a navigable communication with Lough Neagh. Belfast contains an important collegiate establishment, entitled the Belfast Academical Institution, supported in part out of the public purse, and is also the seat of one of the newly-established Queen's Colleges.

Armagh is considered as the ecclesiastical metropolis of Ireland, and contains an ancient cathedral. Linen is extensively manufactured in the town and its neighbourhood, and it has considerable inland trade.

Londonderry, on both sides of the river Foyle, near its mouth, is a place of considerable commercial importance. It has some foreign trade, and also great intercourse with Scotland and Liverpool, chiefly

by steam-boats. It is, next to Belfast, the most considerable town in Ulster.

Galway, the largest city of Connaught, lies near the head of Galway Bay, at the mouth of the river which flows from Lough Corrib. The village of Aghrim (or Aghrim), noted for a decisive victory gained by the army of William III. over that of James II., (A.D. 1691) is within the eastern border of the county of Galway, near the right bank of the river Suck.

Limerick, situated on the Shannon, at the commencement of the estuary of that river, is fourth in population of the cities of Ireland, and contains an ancient cathedral. It has considerable manufactures of linen, woollen, cotton, paper, and many other articles, and is a great place of trade, both foreign and coasting. Vessels of 400 tons burden can ride in safety at the quay, and the navigation thence to the mouth of the Shannon is perfectly unobstructed and secure.

Cork, situated on the river Lee, is the third city of the island in size and populousness, and is only inferior to Belfast in the amount of its foreign trade. Provisions and other agricultural produce are largely exported; and coarse linen and woollen goods, with paper, leather, and glass, are manufactured: ship-building is also extensively carried on, and many large steamers are constructed. Below Cork, the Lee expands into a considerable estuary, which forms one of the finest harbours in the world. On an island situated within this harbour is *Queenstown*,—until lately called the Cove of Cork, but which received its present name on occasion of Her Majesty's visit to Ireland, in 1849. Queenstown forms the principal port of Cork, as only the smaller vessels are able to reach that city.

Waterford, on the south bank of the Suir, has great foreign and coasting trade. Vessels of 500 tons burden can lie in safety at the quay.

Besides the places above described, the ports of *Newry*, *Downpatrick*, and *Carrickfergus*, on the north-east coast,—*Coleraine* (near the mouth of the Bann), on the north,—*Ballyshannon* (at the mouth of the Erne), *Sligo*, *Westport*, and *Tralee*, on the west,—*Kinsale* (at the mouth of the Bandon), *Youghal* (at the mouth of the Blackwater), and *Dungarvan*, on the south coast,—and *Wexford* (at the mouth of the Slaney), on the south-east,—are all places of some commercial importance, and carry on an export trade, chiefly of provisions.

Among the most considerable inland towns are *Kilkenny*, *Carlow*, *Athlone*, and *Mullingar*, in the province of Leinster;—*Armagh*, *Lisburn*, and *Enniskillen*, in Ulster;—and *Clonmel*, *Carrick-on-Suir*, and *Bandon* (on the river of that name), in Munster.

The towns of Belfast, Cork, and Galway are each the seat of a college, entitled Queen's College, of recent establishment.

Almost every part of Ireland abounds in remains of ancient ecclesiastical edifices,—monuments of its early civilisation. Besides these are numerous Round Towers, which are tall circular buildings, of taper dimensions, rising to upwards of a hundred feet in height, and which are probably the remains of Pagan antiquity. The greater number of them are now in ruins, though a few are still nearly perfect in external shape.

FORM OF GOVERNMENT, &c.

(190.) The British Islands constitute together the United Kingdom of Great Britain and Ireland, the form of government in which is a limited monarchy. The succession to the throne is hereditary. The legislative power is shared between the Sovereign and two Houses of Parliament, — the House of Lords, consisting of peers, whose title is hereditary, and the number of whom can be added to by the Crown, — and the House of Commons, consisting of delegates elected by certain classes of the population at large.

The House of Lords is composed both of spiritual and temporal peers. The Spiritual Peers are the two Archbishops and 25 of the Bishops of the English Church, and one Archbishop and three Bishops of the Church of Ireland. The temporal Peers embrace all adult members of the peerage of England and Wales, with 16 representatives of the peerage of Scotland, and 27 of those of Ireland. The representative peers of Scotland are elected for each Parliament, — the Irish peers for life.

The House of Commons consists of 658 members, 500 of whom are returned as representatives of the various counties and boroughs in England and Wales, 53 from Scotland, and 105 from Ireland.

The House of Commons regulates the supplies of money for the public expenditure of the kingdom, and bills affecting money can only originate in that house ; but all new laws, or public measures of any kind, require the united consent of the two Houses of Parliament and the Sovereign.

The executive power is vested in the Crown, and is carried on by ministers and officers appointed by the Sovereign.

(191.) For the administration of justice, England and Wales are divided into seven circuits, each of which is visited twice a year by two of the judges of the superior law courts. These are the Home Circuit, the Norfolk Circuit, the Oxford Circuit, the Midland Circuit, the Western Circuit, the Northern Circuit, and the Chester and Wales Circuit. The county of Middlesex, which is the seat of the supreme law courts, is not included in any of the circuits. In each county, the town in which the assizes (or periodical sittings of the courts) are held is regarded as the county-town.

The judicial administration of Scotland is distinct from that of England and Wales. Ireland is divided into six circuits, which are periodically visited by the judges.

(192.) The established religion in England and Wales is the Protestant, and the English church is under the government of two archbishops and twenty-six bishops. The names of the episcopal sees have been already mentioned (Art. 136.).

In Scotland, the established form of worship is the Presbyterian, and the ministers of the church are under the jurisdiction of a body called the General Assembly.

In Ireland, the established church is a branch of the English church (forming, with it, the United Church of England and Ireland), and is governed by two archbishops and ten bishops. But the great majority of the people of Ireland are members of the Roman Catholic persuasion.

In all parts of the British Islands, full toleration is allowed to those who dissent from the established form of worship.

(193.) In regard to *education*, the condition of the great mass of the people of Great Britain and Ireland is less advanced than in some other countries. The proportion which the number of children actually at school bears to the entire population is smaller in England than in Prussia, Bavaria, Holland, and the United States. But great improvement both in the extent and quality of primary instruction has taken place of late years, and extensive assistance is now afforded by the Government to schools in connection with each of the two great Educational Societies—the National Society, which represents the Established church, and has under its direction by far the larger number of schools,—and the British and Foreign School Society, which is chiefly supported by the dissenting classes. The chief establishments for the pursuit of the higher branches of education have been already mentioned.

Scotland occupies a higher position than England both in regard to elementary instruction and to the superior branches of education. An extensive system of instruction, through the agency of parochial schools, partly under the direction of the clergy, is carried out throughout the whole country, and has resulted in a very general diffusion of moral and religious training among the great mass of the population.

In Ireland, elementary instruction is promoted by a numerous body of schools placed under the direction of a Board of National Education, and assisted with funds by the Government. The three Queen's Colleges of Belfast, Cork, and Galway, recently established for the purpose of affording secular education (without reference to differences of religious belief) to the middle and upper classes, together constitute the Queen's University, the Chancellor and Senate of which possess the usual power of granting degrees.

(194.) Great Britain is distinguished rather as a naval than a military power, but maintains nevertheless a numerous standing army, amounting (inclusive of the troops employed in India, and at the various colonial stations) to upwards of 200,000 men. The Royal Navy of Great Britain is superior to that of any country on the globe, and includes more than 600 ships of all classes, above three-fifths of them propelled by steam. The great increase in the steam navy of Britain of late years, both in regard to war-steamers and those employed for commercial purposes, forms one of the most characteristic features in the industrial progress of the empire.

(195.) *Colonies.*—The British Empire includes a vast number of foreign and colonial possessions, embracing territories situated in every quarter of the globe. A view of the extent and population of these is exhibited in the following Table: a brief account of each will be found under the head of the various countries to which they belong.

Table of British Dominions in various parts of the Globe.

	Area in Eng. sq. miles.	Population.
IN EUROPE :		
British Islands (in 1851) :		
England and Wales - - - - -	57,813	17,923,000
Scotland - - - - -	30,084	2,871,000
Ireland - - - - -	32,513	6,515,000
Isle of Man and Channel Islands - - -	313	143,000
Heligoland - - - - -	5	2,400
Gibraltar - - - - -	3	16,000
Malta and Gozo - - - - -	122	140,000
Ionian Islands - - - - -	1,097	227,000
IN ASIA.		
British India :		
Bengal Presidency - - - - -	612,840	85,520,000
Madras do. - - - - -	135,680	22,301,000
Bombay do. - - - - -	120,065	11,100,000
Protected States - - - - -	400,000	45,000,000
Straits Settlements (Penang, &c.) - - -	1,575	200,000
Ceylon - - - - -	24,000	1,500,000
Aden - - - - -	9	40,000
Hong Kong - - - - -	30	80,000
Labuan - - - - -	26	1,260
IN AFRICA.		
Western Africa (including the Gambia, Sierra Leone, and settlements on the Gold Coast) }	222	62,500
Cape Colony (Cape of Good Hope) - - -	200,000	267,000
Natal - - - - -	18,000	111,000
Ascension - - - - -	34	400
St. Helena - - - - -	47	7,000
Mauritius and its dependencies - - - -	1,020	229,000
IN AMERICA.		
Canada - - - - -	350,000	2,500,000
New Brunswick - - - - -	27,700	194,000
Nova Scotia, with Cape Breton Island - -	18,725	300,000
Prince Edward Island - - - - -	2,130	72,000
Newfoundland - - - - -	36,000	120,000
British Columbia - - - - -	225,000	
Vancouver Island - - - - -	14,000	25,000
Hudson Bay Territory, and Labrador - -	2,500,000	100,000
West Indies (including British Guiana and Honduras) }	76,280	950,000
Bermuda Islands - - - - -	22	10,000
Falkland Islands - - - - -	6,000	500
IN AUSTRALIA AND POLYNESIA.		
New South Wales - - - - -	300,000	305,000
Queensland - - - - -		
Victoria, or Port Phillip - - - - -	80,000	517,000
South Australia - - - - -	300,000	120,000
Western Australia (settled portions of) -	40,000	14,000
Unoccupied regions of Australia - - -	2,280,000	
Tasmania - - - - -	24,000	82,000
Norfolk Island, - - - - -	13	
New Zealand - - - - -	99,500	130,000
SUMMARY IN ROUND NUMBERS.		
British Islands - - - - -	120,000	27,300,000
Colonies and dependencies in Europe - -	1,200	700,000
Do. do. Asia - - - - -	1,305,000	166,000,000
Do. do. Africa - - - - -	219,000	700,000
Do. do. America - - - - -	3,230,800	4,000,000
Do. do. Australia, &c. - - - - -	3,124,000	1,300,000
Total BRITISH EMPIRE - - - - -	8,000,000	200,000,000

CHAPTER V.

THE COUNTRIES OF WESTERN EUROPE.

(196.) **THE** natural features of the European mainland have been described in Chapter II. A brief account of the inhabitants, their industrial pursuits, the natural divisions, and principal towns, of each of the countries of this quarter of the globe, is given in the present and succeeding chapters.

SECTION I.—FRANCE.

(197.) *Extent and Boundaries.*—France is bounded on the north by Germany, Belgium, and the English Channel,—on the west by the Bay of Biscay,—on the south by the Pyrenees and the Mediterranean Sea,—and on the east by the Alps, the chain of Mount Jura, and the Rhine. The Pyrenees divide France from Spain,—the Alps from Italy,—Mount Jura from Switzerland,—and the Rhine from Germany.

The total area of France (including, with the island of Corsica, the recently-acquired territories of Savoy and Nice) is 211,000 square miles,—or above four times the size of England; its length of coast is about 1500 miles, of which about 380 miles are on the Mediterranean,—the other and larger portion on the Bay of Biscay and the English Channel.

(198.) *Natural features.*—France is for the most part a level country. The Alps and the Pyrenees, which impart variety to the south-eastern and southern departments, are border chains, and belong rather to the Italian and Spanish systems of mountains than to the country now under notice. Within the proper limits of France are the ranges of the Cevennes and the Vosges, with the volcanic group of Auvergne, described in a previous page (Art. 26). These, however, are confined to the eastern and central portions of the country; the northern and western portions consist of undulating or nearly level plains, and the ground which separates the different river-basins is only of trifling elevation.

A chain of rocky heights divides the tributaries of the Loire from the streams that flow into the English Channel, and extends through the

peninsula of Brittany, in the north-west of France. But their altitude is inconsiderable, in few cases reaching more than a thousand feet above the sea level, and generally falling short of that measure.

The sandy tract of the Landes (referred to in Art 31.), in the south-western portion of the country, extends along the shores of the Bay of Biscay, from the mouth of the Garonne to the foot of the Pyrenees, and forms a region of peculiar aspect. Except along the immediate shores of the ocean, where the loose sand is raised in a chain of hillocks, or downs, it consists of alternate plains of white sand, and black forests of pine. At its greatest breadth, this region stretches as far as sixty miles inland, but its limits are more contracted towards the neighbourhood of the Garonne. With the exception of a few localities where patches of ill-cultivated land occur, the whole region of the Landes is a perfect wilderness, tenanted only by the shepherd, who finds there a scanty and stunted pasturage for his flocks.

(199.) *Rivers.*—The principal rivers of France are the Seine, Loire, Garonne, and Rhone. The Seine flows into the English Channel; the Loire and Garonne into the Bay of Biscay; the Rhone into the Mediterranean Sea (Arts. 37, 40). The Rhine flows along part of the eastern border of France; the upper portions of the Moselle and the Meuse are within that country.

Of smaller French rivers, the most important are the Somme, the Charente, and the Adour. The Somme flows into the English Channel, to the north of the Seine valley. The Charente and the Adour both flow into the Bay of Biscay: the Charente is between the valleys of the Loire and Garonne; the Adour is to the south-west of the last-named river, and immediately northward of the Pyrenees.

The *Seine* is joined, above Paris, by the streams of the Marne, the Yonne, and the Aube; and, below the capital, by the Oise, with its tributary stream, the Aisne. From Havre, where it enters the channel, the Seine is navigable up to Troyes, a distance of 340 miles.

The *Loire* is joined in the upper part of its course by the Allier, and receives lower down the streams of the Cher, Indre, Vienne, and Sèvre, all upon its left bank; on the opposite bank it is joined by the river Sarthe, which brings with it the waters of the Loir. The Loire is navigable to the town of Roanne, 450 miles above its mouth.

The *Garonne* receives the streams of the Arriège, the Tarn, the Lot, and the Dordogne, upon its right bank. On the left bank the chief tributary is the Gers. Below the junction of the Dordogne, the Garonne forms a broad estuary, and is called the Gironde. The navigation of the Garonne commences at Cazères (above Toulouse), 270 miles above its mouth.

The *Rhone* issues from the lake of Geneva. Its course, at first westerly, becomes southward at Lyons, where it is joined on the right bank by the river Saône, its most considerable tributary. Lower down, it receives on the right bank the stream of the Ardèche, and on the left

the Isère, the Drôme, and the Durance. The Saône is increased by the waters of the Doubs, which comes from the western slopes of the Jura.

France has no lakes of any magnitude, but extensive lagoons and swamps occur, both on its southern and south-western coasts. There are many small lakes in the high valleys of the Pyrenees.

(200.) *Climate and natural productions.*—In the *north* and *north-west* of France,—that is, in the country lying to the north of a line drawn diagonally from the mouth of the Loire to the banks of the Rhine, in the parallel of 49° ,—the climate and vegetable productions differ little from those of England. The principal objects of culture are wheat, barley, oats, rye, and such fruits as the apple, pear, and cherry; also hemp, flax, and rape-seed. The vine is here only grown to a limited extent, and confined to the eastern part of the region described. Rain is frequent, and the pastures are rich and extensive.

In a *central* belt of country, comprised between the line just mentioned and a similar diagonal drawn from the mouth of the Garonne to the frontier of Switzerland, the climate is sensibly warmer, and the winter of shorter duration. Wheat, oats, rye, and barley, are still raised; maize begins to appear, and the vine here forms a general crop. The weather is generally more settled, and the atmosphere less humid than in the north, though violent storms of rain and hail sometimes do much mischief to the corn.

In the *southern* part of France, the heat is much greater: wheat is comparatively scarce; barley, rye, and oats, are only grown on the higher grounds. Maize is everywhere general, and the vine is extensively cultivated. The common fruits here are the olive, the mulberry, and (on the shores of the Mediterranean) the orange, the lemon, and the pistachio-nut.

The difference of climate between the north and the south of France is, on the whole, greater than that experienced at the opposite extremities of Britain. In the middle division the harvest is eight or ten days, and in the south about three weeks, earlier than in the north.

France still contains extensive forests, chiefly in its inland districts,—in the centre of the country, and in the eastern departments, bordering on Germany and Switzerland. The total surface covered with wood is estimated to be about 17,000,000 acres, nearly one-eighth part of the entire area of the country. The most common forest-trees are the oak, birch, ash, elm, beech, and (in the mountainous districts) the varieties of the pine and fir tribe. The cork-tree is cultivated in a small district in the south, adjacent to the banks of the Garonne (department of Lot-et-Garonne).

Of wild animals, both the black and the brown bear are found in the Pyrenees ; the lynx is seen in the high Alps, but is now rare ; the chamois and wild goat are confined to the mountainous districts of the south and east. Wolves are numerous in all the large forests, and are frequently destructive to the flocks : in many of the provinces the pole-cat, the fox, and the weasel, prey upon the poultry-yards.

The productions of the mineral kingdom have been referred to in Art. 57. The most important of the coal-fields are those within the basin of the upper Loire : that in the neighbourhood of the town of St. Etienne (to the s. w. of Lyons) is the largest, and comprises about fifty thousand acres. Other valuable localities of coal occur in Alsace, Burgundy, and Auvergne ; and also in various parts of Languedoc, Provence, the Limousin, and Normandy. The total area of the coal-fields is probably not less than two thousand square miles, and the annual produce is at least equal to four millions of tons.

France possesses a great number of *mineral springs*, chiefly situated along the chains of the Pyrenees and Vosges, and among the mountains of Auvergne. Their water is mostly medicinal, and some of them are much resorted to by visitors. At Aix (in the department of Bouches du Rhone) are thermal springs, of great celebrity ; some of those among the mountains of Auvergne are also thermal.

(201.) *Inhabitants*. — France contained, in 1856, a population of 36,000,000, an average of 176 to the square mile. The northern half of the country is generally more populous than the southern, and contains (especially in the departments adjacent to Belgium and the shores of the English Channel) a greater number of large towns.

The most densely-populated portion of France, the department of the Seine (in which Paris is situated), has upwards of 6000 inhabitants to the square mile, — the department du Nord (the most northern), 468, — the department of the Rhone (which contains Lyons), 447, — and that of Seine Inférieure (at the mouth of the Seine), 309. The least populous, that of Basses Alpes, at the south-east extremity of the country, has only 60 inhabitants to the square mile.

The people of France are a mixed race, in which the Celtic predominates. The language spoken by nine-tenths of the inhabitants belongs to the Greco-Latin stock (Art. 81.), divided, however, into two different dialects, the *French* (properly so called), to the north of the river Loire, and the *Romance* or *Provençal*, to the south of that river ; or, as they were formerly distinguished, the *Langue d'Oui*, in the north, and the *Langue d'Oc*, in the south.

In the departments bordering on the Rhine, the people are chiefly of the Germanic race ; in the extreme north, the inhabitants are mostly of Flemish extraction. The people of Bretagne are of the pure Celtic stock, and in the south-west, bordering on the Pyrenees, are a people called the Basques, who speak a peculiar dialect.

(202.) *Industrial pursuits : Agriculture*. — About three-fifths of the population of France are engaged directly in

agricultural occupations, and a larger proportion of the land is under cultivation than in any other European country excepting England and Belgium. Of the entire surface of France about one-half is stated to consist of arable land, one-eleventh part is in pasture, and one twenty-fifth part is occupied by vineyards.

Wheat is the principal object of cultivation in France, and next to it the vine; after which are rye, oats, barley, maize, buckwheat, peas, beans, potatoes, flax, hemp, madder, and tobacco.

Wheat is grown chiefly in the departments of the north and centre, though that of the best quality is raised in the south and south-east departments. *Rye* is grown in almost every part of the country, but principally in the centre and south. *Maize* prevails in the south and south-west, and *barley* and *oats* are raised chiefly in the north; *buckwheat* on the inferior lands of the centre and south.

The quantity of corn annually raised in France is usually sufficient to supply the wants of the population, and in the northern part of the country leaves a surplus for exportation. But in the south, owing to the larger space allotted to the growth of the vine and olive, some import of grain is generally required.

Hemp and *flax* are chiefly confined to the northern departments, as is also the growth of *hops*. The cultivation of *tobacco* is restricted to eight departments, situated in opposite portions of the country. The growth of the *beet-root* (for the manufacture of sugar) has been extensively introduced of late years, — chiefly in the neighbourhood of the capital, and in the departments of the north. *Madder* is grown to a trifling extent in the departments bordering on the Rhine, and saffron in a small district of the south.

The cultivation of the *vine* forms, throughout almost the whole country, an important and distinctive feature in French agriculture. The departments in which the greatest quantity of land is occupied by vineyards are those adjacent to the course of the Garonne, and extending thence across the country in a south-east direction to the shores of the Mediterranean, embracing the Gironde, Charente Inférieure, Herault, Charente, Dordogne, Gers, Gard, Lot-et-Garonne, and Var. But the eastern departments of Marne, Aube, &c. (which formed the ancient province of *Champagne*), and those of Côte d'Or, Saône-et-Loire, &c. (formerly comprised in *Burgundy*), though yielding a smaller quantity of fruit, are distinguished for a wine of generally higher quality. The department of Gironde furnishes the wine called *claret*. Cognac, in the department of Charente, is the principal seat of the manufacture of *brandy*, which is carried on to an immense extent.

Owing to differences of soil and climate, the quality of the grape naturally varies considerably in different parts of France. The months of September and October are the usual season of vintage.

The *domestic animals* are not numerous in France (compared with the size of the country), but sheep are now extensively reared, and the supply of wool is considerable. In the central and southern departments, oxen are largely used in the performance of agricultural labour.

The supply of oxen for consumption as food is chiefly from the depart-

ments of the north and centre, and from the province of Gascony (departments of Landes and Basses Pyrénées), in the south-west: the oxen of Gascony are of large size. *Butter* is extensively made in the north and north-west, and considerable quantities (both salt and fresh) exported: *cheese* is chiefly made in the south. *Poultry* are largely reared in many parts of the country, especially in the north-west, and in the departments of the south; eggs are exported, in immense numbers, to England and elsewhere.

The consumption of meat for food is much less considerable in France than in Great Britain. The beef and mutton of the north-western departments are of good quality, though not equal to that which supplies the markets of London and other parts of England.

In the south of France, *bees* are largely reared, and yield a considerable quantity of honey and wax: the *silk-worm* is abundantly reared in the south-east departments, where the mulberry-tree is extensively planted for its consumption.

(203.) *Fisheries*.—The fisheries on the French coasts are not of great importance. On the shores of the English Channel, the sole, ray, turbot, mackerel, and herring, are taken,—and oysters at the mouth of the Seine, as well as at St. Malo and elsewhere. On the coast of Bretagne the pilchard fishery employs a considerable number of men, and the fish are salted in great quantity and supplied to the interior markets.

On the Mediterranean coast the anchovy is caught in great numbers, and the tunny fishery is also pursued (Art. 74.).

(204.) *Manufactures*.—France ranks second only to Great Britain as regards the extent and value of her manufacturing industry. The most important and characteristic manufacture is that of *silk fabrics*, which surpass those of any other country, in richness of material, brilliancy of colour, and taste and elegance of design. Besides the raw silk produced in the country, about an equal quantity is imported from Lombardy.

The towns in which the *silk manufacture* is most extensively carried on are Lyons, Nismes, Avignon, Tours, St. Etienne, and Paris,—all (excepting Paris and Tours) in the south and south-east: its great seat is in the town of Lyons and its neighbourhood, where it gives employment to between 60,000 and 70,000 persons. Of the total quantity of silk manufactured, four-fifths are exported to other countries.

The *woollen manufacture* is the oldest and most widely-diffused, and is the next in value and importance. It is carried on to the largest extent in the northern and north-western departments, especially in the towns of Sedan (*department of Ardennes*), Louviers (*Eure*), Rouen and Elbeuf (*Seine Inférieure*), Abbeville and Amiens (*Somme*). The finest qualities of cloth are made at Sedan and Louviers: the manufacture of *shawls* has its chief seats at Rheims, Paris, and Lyons. The finer sorts of wool required for this branch of industry are chiefly imported from Germany. In the mountainous districts of the south, the making of serges and other coarse woollens is largely pursued by the peasantry in the intervals of their out-door labour.

The manufacture of *linen* and *hempen fabrics* is extensively diffused in the north of France, and is largely pursued in the towns of St. Quentin, Valenciennes, Cambray, Douay, Lille, Rouen, and many other places. Fine cambrics, gauze, and lawn, are chiefly produced at St. Quentin and other places in the north-east : the manufacture of *lace* is mostly carried on at Valenciennes, Dieppe, Alençon, &c. At Rennes, St. Malo, and other places in Bretagne, coarse linen, canvas, and sacking, are made. Various branches of this manufacture are also carried on in and around Lyons, and in the south-eastern departments. Great quantities of the finer linen goods, with lace, &c., are exported.

The *cotton manufacture* is chiefly pursued in the north and east of France, in the towns of Rouen, Lille, Cambray, St. Quentin, Abbeville, Amiens, and at Paris, Lyons, and Mulhausen (*department of Haut Rhin*) ; also at Orleans, Angers, Gers, and other places. The material called *gingham* derives its name from the town of Guingamp (*department of Côtes du Nord*), where its manufacture, as well as that of cotton and linen goods in general, is largely carried on. The extent to which the cotton manufacture is pursued in France is much below its amount in Britain (probably not more than one-third as much), but it supplies the greater part of the home consumption, and yields some surplus for exportation.

The making of *jewellery, watches and clocks*, and *coloured glass*, and a great variety of trinkets and articles of finery, as artificial flowers, fancy stationery, &c., is a characteristic branch of French industry, and one in which the people of France are regarded as excelling any other nation. Paris is the chief seat of these pursuits.

Leather is manufactured to a great extent, especially *gloves*, chiefly at Paris, Grenoble, Chaumont, Blois, &c. The china of Sèvres (on the banks of the Seine, below Paris) is highly esteemed, as are also other kinds of French porcelain.

The town of St. Etienne (s. w. of Lyons) and its neighbourhood are the principal seat of the *metal manufactures* of France, but the produce of these is not considerable, and is limited by the comparative deficiency of coal. *Fire-arms* are chiefly made at Tulle (*department of Corrèze*) and St. Etienne ; *cutlery* principally at Paris, and at Langres and other places in the department of Haute Marne ; scythes and files at Toulouse, where also is the principal cannon-foundry of the country.

Among a variety of other articles of manufacture are paper, glass, bricks, tiles ; alum, vitriol, and various mineral acids and other chemical preparations ; furniture, glue, soap, hats, musical instruments, &c., &c.

Ship-building is carried on chiefly at Brest, Rochefort, Cherbourg, Bordeaux, and Bayonne, on the shores of the Channel and the Bay of Biscay ; and at Toulon and Marseilles on the Mediterranean coast. Great attention has been given of late years to the building and equipment of war-steamers, of which France now possesses a considerable fleet.

(205.) *Commerce*.—The foreign commerce of France consists principally in the import of raw material and tropical produce, and the export of manufactured articles and the produce of her vineyards.

The principal *imports* are raw silk and cotton, fine wool, linen yarn, hides, timber, iron, coal ; with tea, coffee, sugar, tobacco, indigo, spices, dye-woods, horses, cattle, &c.

The chief articles of *export* are manufactured silk and woollen goods ; wine, brandy ; ribbons, lace, gloves, and various articles of mercery and haberdashery ; clocks and watches, jewellery, porcelain, glass, hats, fruits, perfumery, &c.

The countries with which the import trade is most extensive are the United States, Belgium, Sardinia, Great Britain, Germany, Spain, Hindoostan, Switzerland, Naples and Sicily, and the French Colonies in the West Indies. From these France derives her supply of raw cotton, coal and iron, silk, wool, and tropical produce in general. The export trade is chiefly to the United States, Great Britain, Spain, Belgium, Germany, Switzerland, and other countries.

(206.) *Inland trade and means of communication.*—A great part of the inland commerce of France is transacted at fairs, held annually for this purpose in all the great towns of the country.

The principal roads, or *high roads*, are generally well made and in good repair,—but the cross-roads are inferior to those of our own country.

The communication afforded by *navigable rivers and canals* is about 7800 miles in length, of which 2350 miles (or less than a third part) consist of canals. The principal of these are the Canal du Midi, which unites the Garonne with the Mediterranean,—the Canal du Centre, which connects the Loire and the Saône,—the Canal du Rhone au Rhin, which connects the basins of those rivers, by means of the Doubs, a tributary of the Saône,—and the Canal du Burgogne, which unites the Saône with the Yonne (an affluent of the Seine), and thus forms another communication between the seas on the opposite sides of France. There are several others, chiefly in the departments of the centre and north.

The total length of the *railways* at present open in France exceeds 3000 miles. The principal lines connect the capital, Paris, with the towns of Valenciennes and Lille near the Belgian frontier,—with Calais, Boulogne, Dieppe, and Havre, on the shores of the English Channel,—with Orleans, Tours, Nantes, and Bordeaux, in the centre and west, with Lyons (by way of Chalons-sur-Saône) in the south, and with Strasbourg, on the German frontier. By means of railways and steam-navigation, the journey between Paris and London (a direct distance of 215 miles) is now effected in the short space of ten hours. The electric telegraph extends along the line of railway between Paris and Calais (as well as along most of the other railways, throughout the country,) and the connection of Calais and Dover by wires laid under the bed of the narrowest portion of the Channel effects a nearly instantaneous communication of intelligence between the English and French capitals.

(207.) *National divisions.*—France is divided into 86 departments, one of which consists of the Island of Corsica : their names are in most cases taken from that of the prominent natural feature which they contain,—in the majority of instances from those of the rivers by which they are intersected. The departments are more nearly equal in size

than the counties of England or Scotland, and the average magnitude is about equal to that of the county of Lincoln. The department of Seine, which contains the capital, is the smallest, and is only 182 square miles in area.

The departments are subdivided into arrondissements, cantons, and communes or parishes, of which latter there are altogether 38,623.

(208.) The division into departments was only established at the close of the last century, previous to which the country formed 34 provinces of very unequal size and irregular shape. The names of many of these are still in familiar use. They are enumerated in the subjoined Table, with the departments to which they chiefly correspond.

Table of the Old Provinces of France, with the corresponding Departments.

Provinces.	Departments.
Alsace - - - -	Haut Rhin — Bas Rhin.
Angoumois - - -	Charente.
Anjou - - - -	Maine et Loire.
Artois - - - -	South-eastern portion of Pas de Calais.
Aunis - - - -	Maritime portion of Charente Inférieure.
Auvergne - - -	Puy de Dôme and Cantal.
Bearn - - - -	Basses Pyrénées.
Berry - - - -	Cher — Indre — and part of Nièvre.
Bourbonnais - -	Allier.
Bourgogne - - -	Ain — Côte d'Or — Saône et Loire — Yonne.
Bretagne - - - -	Côtes du Nord — Finisterre — Ille et Vilaine — Loire Inférieure — Morbihan.
Champagne - - -	Ardennes — Aube — Marne — Haute Marne.
Comté de Foix - -	Ariège — and the republic of Andorre.
Dauphiné - - - -	Hautes Alpes — Drome — Isère.
Flandre - - - -	Nord.
Franche Comté -	Doubs — Jura — Haute Saône.
Gascogne } - - -	Aveyron — Dordogne — Gers — Gironde — Lot — Lot et Garonne — Landes — Hautes Pyrenees — Tarn et Garonne.
Guyenne } - - -	
Ile de France - -	Oise — Seine — Seine et Oise — Seine et Marne — S. part of Aisne.
Languedoc - - -	Ardèche — Aude — Gard — Herault — Haute Garonne — Haute Loire — Lozère — Tarn.
Limousin - - - -	Corrèze — Haute Vienne.
Lorraine - - - -	Meurthe — Meuse — Moselle — Vosges.
Lyonnais - - - -	Loire — Rhone.
Maine - - - -	Mayenne — Sarthe.
Marche - - - -	Creuse.
Nivernais - - - -	Nièvre.
Normandie - - -	Calvados — Eure — Manche — Orne — Seine Inférieure — N part of Eure et Loire.
Orleanais - - - -	Eure et Loire — Loir-et — Loir et Cher.
Picardie - - - -	Somme — maritime part of Pas de Calais — N. part of Aisne.
Poitou - - - -	Deux Sèvres — Vendée — Vienne.
Provence - - - -	Basses Alpes — Bouches du Rhone — Var — E. part of Vaucluse.
Roussillon - - -	Pyrénées Orientales.
Saintonge - - - -	Eastern or inland part of Charente Inférieure.
Touraine - - - -	Indre et Loire.

For military purposes, the country is arranged into 21 provinces, or military divisions. The maritime regions are divided into five arrondissements, four on the Atlantic, and one on the Mediterranean Coast.

(209.) The eighty-six departments of France may be ar-

ranged, with reference to their natural position, in the following manner.

Twelve departments are within the basin of the river Seine : these correspond, among the older divisions of the country, to the regions known as Isle of France, Champagne, and Lower Normandy.

Seventeen departments are within the basin of the Loire, which comprehends the ancient provinces of Auvergne, Bourbonnois, Nivernois, Berry, Orleanois, Touraine, Maine, Anjou, and parts of Poitou and Brittany.

Thirteen departments are within the basin of the Garonne. These include the ancient Guienne, with parts of Gascony and Languedoc.

Fifteen departments are within the basin of the Rhone, which comprehends the ancient Burgundy, Franche Comté, Lyonnais, Dauphiny, and the chief parts of Provence and Languedoc.

Seven departments are within the basin of the Rhine, which includes the ancient Alsace and Lorraine.

Three departments are to the northward of the Seine basin, extending thence to the Belgian frontier. They include the ancient Picardy, Artois, and French Flanders.

Seven departments are intermediate between the lower Seine and Loire basins. They lie along the shores of the channel and the neighbouring ocean, and include the chief part of Normandy and Brittany.

Four departments are between the lower Loire and the mouth of the Garonne. They correspond to the ancient Aunis, Saintonge, and Angoumois, with the chief part of Poitou.

Three departments are south-west of the Garonne basin, towards the Pyrenees and the Bay of Biscay. They include the ancient Bearn and Navarre, with part of Gascony.

Three departments lie south-eastward of the Garonne basin, along the Mediterranean coast. They correspond to the ancient Roussillon, with part of Languedoc.

One department is to the south-east of the Rhone basin, and falls within the ancient Provence.

One department is formed by the island of Corsica.

The names of the departments, with the principal towns in each, are given in the following tables * :—

DEPARTMENTS IN BASIN OF SEINE.

Departments.	Towns.
Seine - - - - -	Paris, 1,500,000—St. Denis, 9000—Gentilly, 8000.
Seine et Oise - -	Versailles, 29,000—Etampes, 8000—Pontoise, 5000—Sèvres, 5000—St. Cloud, 3000.
Seine et Marne - -	Melun, 7000—Meaux, 8000—Fontainebleau, 8000.
Seine Inférieure -	Rouen, 103,000—Havre, 64,000—Dieppe, 16,000—Elbeuf, 16,000—Fécamp, 9700—St. Valery-en-Caux, 5300.
Eure - - - - -	Evreux, 8000—Louviers, 9800—Ivry.

* The town that is named first ranks as the capital of the department. The places to which no population is attached are inserted on account of their historical note.

Departments.	Towns.
Eure et Loire - -	Chartres, 15,000—Nogent, 6000—Chateaudun, 6000.
Oise - - - -	Beauvais, 12,000—Compeigne, 8000—Noyon, 5000—Senlis, 5000.
Aisne - - - -	Laon, 8000—St. Quentin, 23,000—Soissons, 8000.
Marne - - - -	Chalon-sur-Marne, 13,000—Rheims, 42,000—Vitry, 7000.
Haute Marne - -	Chaumont, 5600—Langres, 7600.
Aube - - - -	Troyes, 26,000—Bar-sur-Aube, 4000.
Yonne - - - -	Auxerre, 12,000—Sens, 10,000—Avallon, 5000—Joigny, 5500.

DEPARTMENTS IN BASIN OF LOIRE.

Haute Loire - -	Le Puy, 15,000—Yssingeaux, 3000.
Loire - - - -	Montrison, 6000—St. Etienne, 94,000—Roanne, 12,000.
Puy de Dôme - -	Clermont-Ferrand, 28,000—Riom, 10,000—Issoire, 6000—Ambert, 3600.
Allier - - - -	Moulins, 14,600—Montluçon, 6000—Vichy, 1300.
Cher - - - -	Bourges, 18,000—St. Amand, 7000.
Nièvre - - - -	Nevers, 15,000—Cosne, 5000—Clamecy, 5000.
Loiret - - - -	Orleans, 42,000—Montargis, 7000.
Loir et Cher - -	Blois, 13,000—Romorantin, 7000—Vendôme, 6700.
Indre - - - -	Chateauroux, 12,000—Issoudun, 10,000.
Indre et Loire -	Tours, 26,000—Chinon, 5000.
Creuse - - - -	Gueret, 3900—Aubusson, 4800.
Haute Vienne - -	Limoges, 27,000.
Vienne - - - -	Poitiers, 24,000—Châtellerault, 9700—Loudun, 4000.
Maine et Loire -	Angers, 36,000—Saumur, 10,600.
Loire Inférieure -	Nantes, 108,000.
Sarthe - - - -	Le Mans, 22,000—La Flèche, 6000.
Mayenne - - - -	Laval, 16,000—Mayenne, 8000.

DEPARTMENTS WITHIN BASIN OF GARONNE.

Ariège - - - -	Foix, 3400—Pamiers, 6000.
Haute Garonne -	Toulouse, 103,000—St. Gaudens, 3000—Muret.
Gers - - - -	Auch, 7500—Condom, 4000—Lectoure, 3000.
Tarn - - - -	Alby, 14,000—Castres, 14,000—Gaillac, 5000—Lavaur, 4000.
Tarn et Garonne -	Montauban, 16,000—Molssac, 6000—Castel-Sarrasin, 3400.
Aveyron - - - -	Rodez, 8000—Milhau, 4000—Villefranche, 7700—St. Affrique, 6700.
Lot - - - -	Cahors, 10,000—Figeac, 6000.
Lot et Garonne -	Agen, 15,500—Villeneuve, 5000—Marmande, 5000.
Lozère - - - -	Mende, 6000.
Cantal - - - -	Aurillac, 8400—St. Flour, 5000.
Corrèze - - - -	Tulle, 8000—Brives, 6000.
Dordogne - - - -	Périgueux, 12,000—Bergerac, 6800—Sarlat, 4000.
Gironde - - - -	Bordeaux, 150,000.

DEPARTMENTS IN BASIN OF RHONE.

Haute Saône - -	Vesoul, 5800—Gray, 6000.
Doubs - - - -	Besançon, 29,000—Montbéliard, 5000—Pontarlier, 4500.
Jura - - - -	Lons-le-Saulnier, 8000—Dôle, 9300—Salins, 6500.
Côte d'Or - - -	Dijon, 26,000—Beaune, 10,000—Chatillon, 4600—Semur, 4000.
Saône et Loire -	Macon, 12,000—Chalons-sur-Saône, 16,000—Autun, 9000.
Ain - - - -	Bourg-en-Bresse, 8900—Belley, 4000.
Rhone - - - -	Lyons, 293,000—Villefranche, 7000.
Isère - - - -	Grenoble, 23,000—Vienne, 14,000.
Drôme - - - -	Valence, 11,000—Romans, 7000—Montelimar, 6000.
Ardèche - - - -	Privas, 3300—Annonay, 10,000.
Hautes Alpes - -	Gap, 5000.
Basses Alpes - -	Digne, 3900.
Vaucluse - - - -	Avignon, 26,000—Carpentras, 8000—Orange, 6000.
Bouches du Rhone	Marseilles, 250,000—Aix, 27,000—Arles, 14,000—Tarascon, 9000—La Ciotat, 4000.
Gard - - - -	Nismes, 47,000—Alais, 18,000—Beaucaire, 8500—Uzes, 6000.

DEPARTMENTS IN BASIN OF RHINE.

Haut Rhin - - -	Colmar, 18,000—Mulhausen, 28,000—Belfort, 4000.
Bas Rhin - - - -	Strasbourg, 78,000—Schlestat, 8900—Wissembourg, 3400.

Departments.	Towns.
Vosges - - - -	Epinal, 9000—St. Diey, 7700—Mirecourt, 5000.
Meurthe - - - -	Nancy, 38,000—Luneville, 12,000—Toul, 7000.
Moselle - - - -	Metz, 65,000—Thionville, 4000—Sarreguimines, 4000.
Meuse - - - -	Bar-le-Duc, 12,500—Verdun, 10,000.
Ardennes - - - -	Mezières, 8800—Sedan, 13,600—Rethel, 7500.

DEPARTMENTS TO NORTH OF SEINE BASIN.

Somme - - - -	Amiens, 56,000—Abbeville, 17,000—St. Valery-sur-Somme, 2800—Crecy.
Pas de Calais - -	Arras, 24,000—Boulogne, 29,000—St. Omer, 18,000—Calais, 10,400—Bethune, 7000—Montreuil, 4000—Agincourt.
Nord - - - -	Lille, 79,000—Dunkirk, 25,000—Valenciennes, 19,000—Cambrai, 18,000—Douay, 17,000—Hazebrouck, 4500—Malplaquet.

DEPARTMENTS BETWEEN LOWER-SEINE AND LOIRE.

Calvados - - - -	Caen, 39,000—Bayeux, 9000—Lisieux, 11,000—Falaise, 8600—Honfleur, 9000.
Orne - - - -	Alençon, 14,000—Argentan, 4700.
Manche - - - -	Saint-Lo, 8400—Cherbourg, 22,000—Avranches, 7200—Coutances, 7000—La Hague.
Ille et Vilaine - -	Rennes, 30,000—Fougères, 9000—St. Malo, 8000—Vitré, 6800.
Côtes du Nord - -	St. Brieux, 9000—Dinan, 8000—Guingamp, 6000.
Morbihan - - - -	Vannes, 10,000—L'Orient, 19,000—Pontivy, 4600.
Finisterre - - - -	Quimper, 9800—Brest, 35,000—Morlaix, 9000.

DEPARTMENTS BETWEEN LOIRE AND GARONNE.

Vendée - - - -	Napoleon-Vendée, 5000—Fontenay, 6000—Les Sables d'Olonne, 5600.
Deux Sèvres - -	Niort, 17,000.
Charente - - - -	Angoulême, 17,000—Cognac, 4000.
Charente-Inférieure	La Rochelle, 14,000—Rochefort, 16,000—Saintes, 8000.

DEPARTMENTS TO SOUTH-WEST OF GARONNE BASIN.

Hautes Pyrénées -	Tarbes, 12,000—Bagnères, 6400.
Basses Pyrénées -	Pau, 14,000—Bayonne, 14,000—Oléron, 6400—Orthes, 5000.
Landes - - - -	Mont-de-Marsan, 4500—Dax, 5000—St. Sever, 2000.

DEPARTMENTS TO SOUTH-EAST OF GARONNE BASIN.

Pyrénées-Orientales	Perpignan, 17,000.
Aude - - - -	Carcassonne, 15,000—Narbonne, 10,000—Castelnaudary, 8000—Limoux, 7000.
Hérault - - - -	Montpellier, 37,000—Beziers, 16,000—Cette, 16,000—Lodève, 10,000—Agde, 9000.

DEPARTMENT TO SOUTH-EAST OF RHONE BASIN.

Var - - - -	Draguignan, 7500—Toulon, 83,000—Grasse, 6700—Brignolles, 5000.
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INSULAR DEPARTMENT.

Corsica - - - -	Ajaccio, 11,500—Bastia, 12,500.
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(210.) *Towns.*—*Paris*, the capital of France, is situated on both banks of the river Seine, including an island which contains the cathedral church of Notre Dame, and was the original site of the city. It extends along the river for a length of about four and a half miles, and is three and a half miles in its greatest breadth. It is surrounded by walls, which are fortified at intervals, and can only be entered by passing through the gates, or *barrières*, of which there are fifty-six.

Paris is the second city of Europe in population, and is unrivalled in the number and magnificence of its public buildings, its literary and

scientific institutions, museums, libraries, galleries of art, and various resorts of amusement. The National Library, which contains upwards of 800,000 volumes, is the largest in the world. The Seine is crossed at Paris by 22 bridges, and its banks are lined with spacious quays.

Although on the whole a more splendid and attractive city, yet Paris is inferior to London in regard to many public conveniences; the streets are not so well paved or lighted, and (with the exception of a few great thoroughfares) are generally narrower than those of our own metropolis. Paris is, however, the centre of fashion and refinement, and the tastes and manners of its upper classes impart their tone to the habits and arrangements of society in every capital of Europe, and in a greater or less degree to those of the civilised world.

Paris is a city of ancient origin, and existed in the time of Julius Cæsar, when (and for long after) it was confined to the island in the Seine. Its ancient name was Lutetia.

Twelve miles west of Paris is *Versailles*, noted for its magnificent palace, with its galleries of painting and sculpture, and the splendid gardens by which it is surrounded.

(211.) *Amiens*, the former capital of Picardy, is one of the most considerable towns in the north of France, and, besides its woollen manufactures, occupies an important place in history. It stands on the left bank of the river Somme, which enters the English Channel.—*Abbeville*, lower down the river, shares in the woollen manufacture. A few miles distant from Abbeville, to the northward, are the small town and battle-field of Crecy (or Cressy). Agincourt, equally celebrated in history, is a village still further northward, within the former limits of Artois.

(212.) *Rouen*, an ancient cathedral city, on the right bank of the Seine, 75 miles above its mouth, is a great centre of manufacturing industry. It was the ancient capital of Normandy, and possesses great historical interest.—*Havre* (properly *Le Havre de Grâce*), at the mouth of the Seine, constitutes the port of Paris, and is a place of great trade. It is strongly fortified, both on the sea and land sides, and contains a citadel and naval arsenal.

Cherbourg, on the coast of the Channel, nearly opposite to the Isle of Wight, is distinguished by its vast breakwater and its strongly-fortified approaches, and constitutes one of the chief naval stations of France. The fort and bay of La Hogue, on the E. side of the Cotentin peninsula, a few miles S.E. of Cherbourg, give their name to the important naval victory gained by the English over the French fleet (designed to attempt the restoration of James II.) in 1692.

(213.) *Nantes*, near the mouth of the Loire, upon the northern bank of the river, and the largest city of Brittany, is of great commercial importance.—*Rennes*, the former capital of that province, is also an important town, situated on the river Vilaine, which enters the Bay of Biscay.—*Brest*, at the western extremity of the peninsula, is a naval station of the first class. It stands on the north side of a fine natural harbour.—*L'Orient*, also an important naval station, is to the south-eastward, midway between Brest and the mouth of the Loire.

(214.) *Orleans*, an ancient city in the centre of France, lies on the north bank of the Loire, in the middle of a rich and fertile plain. A statue of the heroic Joan of Arc adorns its principal square.—*Tours*, also on the Loire, lower down its stream, is an important seat of the silk manufacture, and, like Orleans, has great historical repute.

(215.) *Poitiers*, the capital of the ancient Poitou, is situated on the Clain, a small tributary of the river Vienne, which joins the Loire. It is only of moderate size, but has great antiquity : its name recalls to Englishmen the memory of the Black Prince, and the victory of 1356.

La Rochelle, on the shore of the Bay of Biscay, and the former stronghold of the French protestants, derives historical interest from its prolonged siege by the armies of Richelieu, in 1627-8. It is enclosed on the land side by walls, and is strongly fortified. In front of La Rochelle are the islands of Ré and Oléron. — *Rochefort*, further south, near the mouth of the Charente, is an important naval station.

(216.) *Bordeaux*, on the left bank of the Garonne, is the great emporium of the wine trade of France, and the chief seat of the foreign commerce of the country on the Atlantic coast, as Marseilles is on the shores of the Mediterranean. It has also considerable share in the cod and whale fisheries, — the former pursued on the banks of Newfoundland. Bordeaux has also numerous manufactures. The Garonne is here crossed by a magnificent bridge of seventeen arches, nearly 1600 feet long.

(217.) *Toulouse*, on the left bank of the upper Garonne, is one of the most considerable cities in the south of France, and was the former capital of Languedoc. It has been the scene of numerous important events in history. *Narbonne*, on the Mediterranean coast (and also within the limits of Languedoc), is of Roman origin, but of inferior importance in the present day. — *Cette*, at the mouth of the Canal du Midi, has considerable share in the wine-trade, and is an important seaport.

Nismes, a short distance west of the Rhone, and not far removed from the Mediterranean, is a great seat of the silk manufacture. It possesses a magnificent Roman amphitheatre, with other remains of antiquity. — *Montpelier*, to the s. w. of Nismes, is also an important town, and has enjoyed celebrity on account of the supposed advantages of its climate. — *Avignon*, one of the chief cities in Provence, is finely situated on the left bank of the Rhone. It has great importance in ecclesiastical history, as the sometime residence of the Popes.

(218.) *Marseilles*, situated on the east side of a large open bay, on the shores of the Mediterranean, is the principal maritime city of France, and one of the chief stations of its foreign trade. It has a magnificent quay, and the streets in the quarter adjacent to the sea are straight and wide, with fine buildings and extensive warehouses. Marseilles is of very early origin, having been founded by a colony of Greeks 539 B. C.

Toulon, to the eastward of Marseilles, on a sheltered and strongly-guarded inlet of the Mediterranean, is one of the chief naval stations of France. — *Nice*, situated 85 miles to the north-eastward of Toulon, and beyond the little stream of the Var, is the chief place within the tract of country (part of the former Italian territory of Nice) transferred from Sardinia to France in 1860. It occupies a delightful situation on the Mediterranean coast, backed by an amphitheatre of hills, which are covered with orange and lemon groves. The port of Villafranca is only two miles distant from Nice, to the eastward. *Monaco*, a few miles further distant, in the same direction, was long the seat of a sovereign principality, the rights of which were purchased by the French emperor, upon the acquisition by France of the adjacent territory.

(219.) *Lyons*, the second city in France, is situated at the confluence of the Rhone and its tributary the Saône. It is distinguished as the

chief seat of the silk manufacture, with velvets, satins, and other varieties of the same fabric. There are also considerable manufactures of cotton, woollen, and leathern goods, gold-lace, jewellery, &c. Lyons is of great antiquity, and, under the Latin name of *Lugdunum*, was the capital of Celtic Gaul.

St. Etienne, thirty-two miles to the south-west of Lyons, is the Birmingham of France, nearly every branch of the iron-trade being carried on there. Its importance in this respect is due to the valuable coal-field within the limits of which it is situated.

(220). *Dijon* (in the department of Côte d'Or) ranks first in importance among the cities of Burgundy. It stands in a fine plain, to the west of the river Saône. *Troyes*, on the Seine, the former capital of Champagne, is an ancient and flourishing town.—*Rheims*, farther to the northward in the same province, claims note as the former ecclesiastical metropolis of France. It possesses a magnificent Gothic cathedral, in which the kings of France were formerly crowned.

Nancy, a fine city in the valley of the Moselle, was the former capital of Lorraine, the province which adjoins Champagne to the eastward. *Metz*, on the left bank of the Moselle, further to the northward, is an important commercial city, and a strong fortress.

Strasbourg, on the small river Ill, about a mile distant from the left bank of the Rhine, is a large and strongly fortified city,—the former capital of Alsace, and the most important place in the east of France. Though united to France for upwards of a century and a half, it has still rather the aspect of a German than a French city. It has manufactures of various kinds, but is chiefly celebrated for its cathedral, a magnificent Gothic edifice.

(221). SAVOY, which previously belonged to the Sardinian monarchy, was in 1860 transferred to French rule. It lies wholly upon the French side of the Alps, and forms geographically a portion of France. The Savoyards, moreover, belong to the French stock of people, and speak the language of that country.

Savoy is included within the basin of the Rhone : it is watered by the river Arve, with the upper portions of the Isère, and its tributary the Arc. It is for the most part a wild and rugged mountain-region, penetrated, however, by watered and fertile valleys. Mont Blanc lies on its eastern border, upon the frontier between France and Italy : the valley of Chamouni (3463 feet above the sea), from which the ascent of Mont Blanc is usually made, stretches along the north-western base of the mountain, and is within French territory.

Chambery, the chief town of Savoy, has some manufacture of silk gauze, stockings, lace, &c. but is only of local importance. *Aix-les-Bains*, a few miles to the northward, has been celebrated from Roman times for its hot sulphureous springs. *Annecy* and *Bonneville*, both small towns, are further to the northward—the former on the lake of Annecy, the latter on the banks of the Arve.

(222.) The other manufacturing towns of note, in addition to those above described, have been mentioned in Art. 204.

The principal ports for foreign trade are *Marseilles* and *Cette* (on the shores of the Mediterranean),—*Bordeaux*, *Nantes*, *Rochelle*, *L'Orient*, and *Bayonne*, on the coast of the Bay of Biscay,—and *Harre*, *Boulogne*, *Dieppe*, and *St. Malo*, on the English Channel.

Brest, Toulon, Rochefort, Cherbourg, and L'Orient, are the chief naval stations and dockyards, and are the respective capitals of the five arrondissements previously mentioned. Of these, Brest on the Atlantic coast, and Toulon on the Mediterranean, are the most important.

Paris, Lyons, Rouen, Sens, Rheims, Tours, Bourges, Alby, Bordeaux, Auch, Toulouse, Aix, Strasbourg, and Avignon, are the principal ecclesiastical cities.

France contains a great number of fortified towns, situated chiefly along the inland frontiers of the country, on the sides of Belgium, Germany, Switzerland, Italy, and Spain. Some of these are among the strongest fortresses in Europe.

(223.) The island of *Corsica*, which forms one of the departments of France, possesses many natural advantages (Art. 47.). The forests abound in the finest timber: the orange, citron, pomegranate, vine, olive, mulberry, and other fruits, flourish; chestnut and walnut trees are numerous, and vast quantities of honey are produced. There are a few ironworks, and the island abounds in excellent building-stones and marbles. Tobacco is cultivated to a small extent, and the silkworm is reared. Cattle constitute the chief wealth of the peasantry: wild boars and foxes are abundant. There are coral fisheries on the east coast.

The inhabitants, who number 240,000, speak a dialect of the Italian language. There are few manufactures, and the exports are confined to small quantities of timber, wines, dried fruits, olive oil, silk, leather, and fish. *Bastia*, on the east coast, is the largest town, and the principal seat of trade; but *Ajaccio*, on the west side of the island, is the capital of the department, and is interesting as the birth-place of Napoleon Buonaparte.

(224.) The present *government* of France is monarchical in form, the sovereign bearing the title of Emperor. The laws are generally simple, and the administration of justice uniform and prompt.

The great majority of the people of France are members of the Roman Catholic Church, but perfect freedom of worship is granted to the followers of other religions, among whom are numbers of various sects of the Reformed or Protestant Church. Both the Catholic and Protestant clergy are paid by the State out of the public funds.

Education is in France placed under the care of a special department of the government, entitled the Council of Public Instruction, which regulates the colleges, or "faculties," for the higher branches of instruction, established in many of the principal towns, and also the elementary and other schools diffused through every part of the country, and supported chiefly out of the public funds. Every commune has a school for elementary instruction, and, if the population exceeds 6000, also a school for superior instruction; and every department has a normal school for the training of masters. France is thus provided with a system of general instruction superior to that of many European countries.

The Polytechnic School (*l'Ecole Polytechnique*) at Paris, for the training of young men in the various pursuits of civil and military engineering, is one of the most important educational establishments; among others are the Schools of Miners, at Paris and St. Etienne,—the School of Maritime Engineers, at Brest,—the School of Shipmasters, at Toulon, &c.

France is highly distinguished as a *military* power, and maintains a

large standing army, amounting to more than 400,000 men. She also possesses at the present time a considerable fleet, but has not been generally successful in maritime warfare.

(225.) *Colonies.* The foreign possessions of France are — the territory of *Algeria*, in Northern Africa ; *St. Louis*, at the mouth of the Senegal, and the island of *Goree*, near Cape Verd, both on the west coast of Africa ; the islands of *Martinique*, *Guadeloupe*, *Mariegalante*, and a few of smaller size, in the West Indies ; part of *Guiana*, in South America ; the small islands of *St. Pierre* and *Miquelon*, in the Gulf of St. Lawrence ; the island of *Bourbon*, in the Indian Ocean ; *Pondicherry*, *Chandernagore*, and a few other places, in India ; and *New Caledonia*, in the southern Pacific.

(226.) On the southern side of the Pyrenees, immediately adjacent to the French department of Ariège, is the little territory of *Andorre*, which consists of three mountain valleys, watered by small affluents of the Segre (one of the tributaries of the Ebro). It has an area of 190 English square miles, with a population of 18,000, and forms a republic under the protection of France, and subject to the spiritual jurisdiction of the Bishop of Urgel (in Spain). The territory produces wood and iron, with which the inhabitants purchase corn and other necessities. *Andorre*, the capital, is a town with 2000 inhabitants.

SECTION II. — BELGIUM.

(227.) *Extent and Boundaries.*—Belgium is bounded on the north by Holland, on the east by Prussian Germany, on the south by France, and on the west by the North Sea. Its greatest extent from E. to W. is about 160 miles, and from N. to S. about 115 miles. Its area is 11,366 English square miles, — rather less than a fifth part of the area of England and Wales, and less than twice the size of Yorkshire.

(228.) *Surface, Rivers, &c.*—The greater part of Belgium is level, and belongs to the region of the great European plain (Art. 31.). In the east and south-east the ground becomes hilly, and is diversified by the northern portions of the *Ardennes*, a chain of heights which enters the country from France, and extends between the Meuse and the Moselle ; but the elevations are not considerable (Art. 26.). In the northern provinces, along the rivers, the ground is protected from inundation by dykes, and on the west, along the sea-coast, by sand-hills or downs, which vary in breadth from one to three miles, and are from 50 to 60 feet in height. They are in some place thickly covered with pine-trees.

The rivers of Belgium are the Meuse and the Scheldt, with their tributaries, most of which, as well as the main streams, are navigable : the country is throughout well-

watered. There are no lakes, but in the north-eastern province (Limburg) the ground is frequently marshy.

(229.) *Climate and Natural Productions.*—The atmosphere is moist in the western provinces, drier and more healthy further inland. In Luxemburg, to the south-east, the climate is also moist, owing to its extensive forests. The western provinces are destitute of forests, but abound with turf, which supplies the inhabitants with fuel.

The mineral produce of Belgium is of the highest order of value. Besides coal and iron, both of which are abundant, it embraces lead, manganese, calamine or zinc, sulphur, and many other articles.

The coal supplied by the mines of Belgium is greater in quantity than that furnished by any other country in Europe, excepting Britain. The two principal coal-fields are those of Liège and Hainault, which together cover an area of about 470 square miles. The quantity of coal annually raised within the province of Hainault alone nearly equals the whole produce of France, and the total produce of the kingdom is not less than 5,000,000 of tons annually. Iron occurs abundantly in close proximity to the coal-fields, chiefly in the provinces of Namur and Liège, in the neighbourhood of the Meuse, and between that river and its tributary the Sambre. Nearly half a million tons of iron are wrought annually. The principal field of calamine is also in the neighbourhood of Liège.

(230.) *Inhabitants.*—Belgium is, in proportion to its extent, the most populous country in Europe. The number of its inhabitants amounted, in 1858, to 4,623,000,—an average of 406 to the square mile; the province of East Flanders, which is the richest and best cultivated portion of the kingdom, has upwards of 680 inhabitants to the square mile. The provinces of Antwerp, Brabant, and East and West Flanders, are those in which the town population bears the highest ratio to the whole number of inhabitants,—those of Namur and Luxemburg, which comprises the hilly districts of the south-east, have the largest amount of rural population.

The people of Belgium are of mixed origin : nearly two-thirds belong to the Teutonic race, which includes the proper Belgians or Flemings, and the Germans. The remainder are chiefly Walloons, mixed with French. The Flemish and German races are most numerous in the northern and western provinces, and are distributed throughout the kingdom; the Walloons and French prevail in the southern and south-eastern provinces (Hainault, Namur, Liège, and part of Luxemburg).

The dialects in use among the people at large vary according to their descent, but French is throughout the language of the educated classes,

and is also the official language of government. The Walloon language is a corrupt dialect of the French.

(231.) *Industrial pursuits : Agriculture.*—In the greater part of Belgium the soil is not naturally fertile, but the industry and skill of the inhabitants have rendered it in general highly productive, and in some parts of the country have converted a sandy and barren heath into a beautiful garden. Nine-elevenths of the soil are under cultivation, and about twice the quantity of corn required for home consumption is annually produced.

Spade-husbandry is extensively employed in Belgium, and great attention paid to the preparation of the soil and the rotation of crops. The farms are generally of small size, and in some parts of the country present perfect specimens of field culture on the principles of gardening. A tract called the *Pays de Waes*, situated between Ghent and Antwerp, in the province of East Flanders, is especially distinguished by its high state of cultivation and abundant productiveness.

Rye, oats, wheat, and barley, are very general crops, and the first of these is most generally consumed for bread among the working classes. The wheat of Liége is of excellent quality. Potatoes, turnips, and carrots, are extensively grown, and are partially used for the feeding of cattle. The cultivation of beet-root (for sugar) is carried on to a considerable extent, and is becoming more general. Clover is also one of the principal objects of Flemish farming, and forms the chief food of the cattle, which are mostly stall-fed, nearly all the land being kept under the plough.

Flax is a very ordinary crop, and is most extensively grown in the provinces of East and West Flanders, Brabant, and Hainault. It is of excellent quality, and forms a staple produce of the country ; it is largely exported to England, France, and elsewhere, besides supplying the demands of the home manufacture. Hemp is cultivated with great care, though to a much less extent, and among other objects of agricultural labour are hops, chicory, tobacco, woad, and madder, — the two last-mentioned used for their dyes. Tobacco is chiefly grown in West Flanders, madder in the provinces of Flanders and Antwerp ; the supply of madder, however, is insufficient for the purposes of the manufacturer, and large quantities are imported.

The rearing of live-stock is less attended to than the cultivation of the soil, but oxen are numerous in the northern and eastern provinces. In Limburg, both the breeding of cattle and the culture of bees are pursued to great advantage. In the most western part of Flanders cows are kept in great numbers, and a large quantity of butter is made for exportation. The sheep of Namur afford excellent wool : those of the hilly districts of Liége and Luxemburg are most distinguished for their quality as food.

(232.) *Manufactures.*—These are considerable, and are increasing in extent and value. That of *woollen* goods is the most important, and an immense quantity of foreign wool

is annually imported for its supply. Its chief seats are Verviers, Liège, and numerous places in the provinces of Flanders, Brabant, and Hainault. The city of Tournay, in the last-mentioned province, is distinguished for its extensive manufacture of carpets, which are also made at Brussels, Antwerp, Ghent, Bruges, and Courtray. Those of Tournay, however, are chiefly of the kind called Brussels carpets.

The *linen* manufacture is considerable, and the linen-cloths of Belgium enjoy a high repute: the towns of Ghent, St. Nicholas, and Termonde, are among its principal seats. Damask table-linens are extensively made at Courtray, Brussels, Bruges, and other places.

The making of *lace*, from the thread of the finest flax, is a distinguishing feature of Belgian industry, and one in which the country is unrivalled. The finest descriptions of lace are produced at Brussels and Mechlin; it is also extensively made at Antwerp, Bruges, Menin, Ypres, Courtray, St. Tron, and other places.

The *cotton* and *silk* manufactures are less considerable, but are improving. The cotton-works are chiefly confined to the provinces of East Flanders and Antwerp, at Ghent, St. Nicholas, Antwerp, and Turnhout. In the neighbourhood of Brussels, and near Ath (in Hainault), are extensive establishments for rearing the silkworm: Antwerp and Lierre (both in the province of Antwerp) are the principal seats of the manufacture of silk fabrics and velvets.

The *iron-works* are situated chiefly in the eastern part of the kingdom, along the banks of the river Meuse and its tributaries. Liège has extensive manufactories of fire-arms, ironmongery of various kinds, steam-engines, machinery, and cannon-foundries. Namur is distinguished for its fire-arms and fine cutlery. Various metal-works are also extensively carried on at Verviers, St. Tron, Louvain, Charleroi, and many other places.

The manufacture of leather, paper, porcelain, glass, the extraction of sugar from the beet-root, the refining of salt, brewing, &c., are also among the various operations of Belgian industry. In the provinces of Liège and Limburg is a considerable manufacture of straw-hats. The sugar refineries are chiefly at Ghent and its neighbourhood; the principal breweries at Brussels and Louvain.

(233.) *Commerce*.—The *imports* are chiefly articles of tropical produce (tea, coffee, sugar, &c.), and the wines and

fruits of southern Europe. Wool (for the purpose of manufacture) is largely imported from Germany, Silesia, Poland, Moravia, and the southern provinces of Russia.

The *exports* are agricultural produce,—corn, flax, madder, vegetable oils (linseed, rape, and hemp), and butter; and manufactured goods, as lace, lawn, fine linens, and cambrics, woollen and cotton cloths, cutlery, and ironmongery.

The articles which Belgium supplies to England are oak-bark, flax, madder, and clover-seed; in return for which she receives East and West India produce and various English manufactures, cotton yarn, cotton cloths, hardware, earthenware, tobacco, and salt.

(234.) *Internal Communication.*—The *roads* in Belgium are wide, regular in direction, and generally of excellent construction. *Canals* are numerous, and have an aggregate length of nearly 300 miles; the principal are those which connect the Meuse with the Scheldt, and the latter river with the sea, at Ostend.

But *railways* are the distinguishing feature of Belgian intercommunication, and are used extensively for the transit both of passengers and goods of every description. In proportion to its size, Belgium has a more extensive system of railways than any other country. These works have all been undertaken at the cost of the State, and form a connected and uniform system, the centre of which is the town of Mechlin (in French, *Malines*). Thence the lines diverge *northward* to Antwerp, — *westward* (by Ghent and Bruges) to Ostend and Dunkirk, — *eastward* to Liège and the Prussian frontier, — and *southward* (by Brussels, Mons, and other places) to the borders of France. The construction of these various lines of communication has aided vastly in developing the industry and resources of the country.

(235.) *National Divisions.*—Belgium is divided into nine provinces, which are subdivided into *arrondissements*, *communes*, and *cantons*. The names of the provinces, with the principal towns in each, and their population, are given below —commencing on the shores of the North Sea, and proceeding eastward:—

Provinces.	Towns, with population.
West Flanders -	Bruges, 50,000 — Courtray, 19,000 — Ypres, 15,000 — Ostend, 13,000 — Poperinghe, 10,000 — Roulers, 10,000 — Nieuport, 3000.
East Flanders -	Ghent, 113,000—St. Nicholas, 18,000—Lokeren, 16,000—Alost, 15,000 — Renaix, 12,000 — Hamme, 9000 — Termonde (or Dendermond), 7800—Eecloo, 9000—Beveren, 6000—Oudenarde, 5000.
Hainault - - -	Mons, 20,000 — Tournay, 33,000 — Ath, 9000 — Charleroi, 6000 — Seneffe — Steinkirk — Fontenoy — Jemappes.
South Brabant -	Brussels, 251,000 — Louvain, 26,000 — Tirlemont, 8000 — Diest, 7000 — Halle, 6000 — Ramillies — Quatre-Bras — Waterloo.
Antwerp - - -	Antwerp, 108,000 — Mechlin, 24,000 — Lierre, 13,000 — Turnhout, 13,000 — Geel, 7000.
Limburg . . .	St. Tron, 9000 — Hasselt, 8000 — Tongres, 6000.

Provinces.	Towns, with population.
Liège - - - -	Liège, 93,000—Verviers, 20,000—Huy, 8000—Heristal, 6000— Herve, 3500—Spa, 3800—Theux, 5000—Landen.
Namur - - - -	Namur, 22,000—Dinant, 5000—Philippeville—Ligny.
Luxemburg - - -	Arion, 4500—Bouillon, 2600.

(236.) *Towns.*—*Brussels*, the chief city of Belgium, and one of the smallest of European capitals, is situated on both banks of the river Senne (a tributary of the Scheldt), extending about three miles in its greatest length, and two and a half miles in width. It is a well-built and handsome city, and contains among its many interesting public edifices several fine cathedral churches. Numerous ornamental fountains adorn the public thoroughfares. Brussels is accessible from the Scheldt, by means of a canal, to vessels of 300 tons burthen.

Ten miles south of Brussels are the village and battle-field of Waterloo, and a little beyond, in the same direction, Quatre-bras and Ligny.

(237.) *Antwerp* (in French, *Anvers*), on the right bank of the Scheldt, is the great emporium of Belgian commerce. Vessels of the largest class ascend to its quays. Antwerp is strongly fortified on the land side, and the banks of the Scheldt, below the city, are protected by several forts. The streets of Antwerp are narrow, and its general aspect sombre; but its magnificent Gothic cathedral (the steeple of which is 446 feet high) commands universal admiration.

Mechlin (or *Malines*), one of the chief seats of Belgian manufactures, is nearly midway between Antwerp and Brussels. It stands on the river Dyle, an affluent of the Scheldt.

Ghent (or *Gand*), the chief seat of the cotton manufactures of Belgium, and a city of old historic fame, stands at the junction of the Lys and the Scheldt, on the left bank of the latter stream. Ghent ranks second in population among the cities of Belgium.—*Bruges*, to the north-westward of Ghent, and only eight miles distant from the sea, has also a great place in history. Its manufacturing industry gives it importance in the present day, but its general aspect tells the story of bygone greatness.—*Ostend*, on the coast of the North Sea, 14 miles to the west of Bruges, is second in rank among the ports of Belgium, and is the chief port of communication with England.

(238.) *Liège* (in German, *Lüttich*), in the eastern part of Belgium, lies in the midst of coal-mines and iron-works, and is the centre of a large and busy population, engaged in the various branches of the hardware trade. The small town of *Spa*, 17 miles s.e. of Liège, is the annual resort of visitors, on account of its chalybeate waters.

Brussels, Louvain, Ghent, and Liège, are each the seat of a university. Many of the cities of Belgium possess fine cathedrals, which are richly adorned, in nearly every case, by works of art.

(239.) Few countries surpass Belgium in point of historic interest, and probably no country contains a greater number of sites that are identified with the records of warlike operations, within the period of modern history. It formed part of the region known (with Holland) as the Low Countries, and the destinies of rival nations have often been decided upon its plains. Among the most celebrated of its many battle-fields are Seneffe (1674), Steinkirk (1692), Landen (1693),

Ramillies (1706), Oudenarde (1708), Fontenoy (1745), Jemappes (1792), Quatre-bras, Ligny, and Waterloo (1815).

Belgium formerly contained a greater number of fortified towns than any other country in Europe ; but the fortifications have in many cases been allowed to fall into decay. The principal fortresses at present are Namur, Tournay, and Charleroi, with the citadels of Antwerp, Ghent, and Liège, and the ports of Ostend and Nieuport.

(240.) The *government* of Belgium is a limited hereditary monarchy. The legislature consists of a Senate and a Chamber of Representatives, both elected by qualified classes of the people, the number of representatives being proportionate to the amount of the population. The executive government is vested in the sovereign.

The established *religion* is the Roman Catholic, of which almost the whole population are followers, but other religions are tolerated.

Education is in Belgium in a backward condition, as compared with some other European countries, and the mass of the people are very generally ignorant and superstitious. Until very recently there has been no regular provision for the instruction of the people at large ; but colleges are established in all the principal towns, and receive partial support from the State. The provinces of Namur and Luxemburg are those in which education is most generally diffused, Liège and the two Flanders those in which it is least so.

Belgium maintains, comparatively to her small size, a considerable standing army, amounting to about 90,000 men. Her navy is small, but is on the increase, and several powerful steamers, fitted both for purposes of commerce and warfare, have been constructed of late years at the expense of the government.

SECTION III.—HOLLAND.

(241.) *Boundaries and Extent.*—Holland, or the Kingdom of the Netherlands, is bounded on the north and west by the North Sea, on the south by Belgium, and on the east by Germany. Its average length, from n. to s., is about 150 miles ; its mean breadth about 100 miles, diminished in its northern part to not more than 30 miles by the great area of the ocean called the Zuyder Zee (Art. 10.).

Holland (properly so called) embraces a territory of 11,897 English square miles, but, adding to this the portions of Limburg and Luxemburg which belong to the Dutch crown, the whole area of the kingdom of the Netherlands is 13,598 square miles. The Dutch portion of Limburg is immediately adjacent to the other provinces of Holland on the s.e. ; but Luxemburg is a detached territory, separated from the rest of the kingdom by the intervening provinces of Belgium. The larger portion of Luxemburg belongs to Belgium, and constitutes the Belgian province of that name.

The situation of Holland, and the numerous gulfs and estuaries by which its shores are indented, cause it to possess a great extent of coast-line. The principal entrance to the Zuyder Zee is by the channel called *the Helder*, situated between the extreme point of the mainland on its western side and the island of Texel. This island is the most southern of a chain which thence extends eastward to the mouth of the Weser, at a short distance from the coast (Art. 45.).

At the north-eastern extremity of Holland is a gulf called *the Dollart*, which, on a smaller scale, resembles the Zuyder Zee, and, like that body of water, was formed by an irruption of the ocean, in the year 1277.

(242.) *Surface, &c.* — Holland is a perfectly level country, and belongs wholly to the region of the great plain, described in Art. 31. A great part of its surface is even lower than the level of the adjacent ocean ; in some places as much as 40 feet below high-water mark. But the sea is prevented from overflowing the land, partly by natural and partly by artificial means.

From the channel of the Helder southward, along the shores of the North Sea, the coast is protected by a line of broad sand-hills (or *dunes*), partially covered with grass or heath, and in some parts from 40 to 50 feet in height. These have been formed by a natural process still in action : the prevalent sea-winds raise banks or ridges of sand at a short distance from the coast, which the inhabitants prevent from proceeding further inland by sowing them with a kind of grass (*arundo arenaria*), the long roots of which bind the whole mass firmly together. But in other parts of the country, particularly in the province of Zeeland and along the eastern shores of the Zuyder Zee, the sea is shut out by enormous artificial mounds, or *dykes*, which are constructed chiefly of earth and clay, sloping gradually from the sea, and usually protected in the more exposed parts by a facing of wicker-work formed of willows interlaced together. Sometimes their bases are faced with masonry, and in some places they are defended by a breast-work of piles, intended to break the force of the waves.

The preservation of the dykes in good condition is an object of constant attention with the people of Holland, as it is only by them that the entire area of large tracts of country is protected from inundation.

Dykes are also constructed along the banks of many of the rivers, the beds of which are in some places considerably elevated above the general level of the country, and are everywhere formed for the purpose of enclosing sections of land which require draining, and which they thus protect from overflow by the adjacent waters.

(243.) *Rivers, Lakes, &c.* — The principal rivers of Holland are the lower courses of the *Rhine*, the *Meuse*, and the *Scheldt*, and the numerous channels into which those streams divide near their mouths. The greater portion of the waters of the Rhine is carried to the sea by the channels called the

Waal and the *Leck*, which unite with the Meuse near the lower part of its course; but the main stream of the river, under the name of the *Old Rhine*, preserves its course to the sea (though with greatly diminished importance), passing in its way by Utrecht and Leyden, and falls into the German Ocean at Katwyk, where immense sluices have been constructed to preserve an open channel for its waters.

A branch, called the River Yssel, leaves the Rhine shortly after the river enters Holland, and flows northward into the Zuyder Zee. Another branch, which leaves the main stream midway between Utrecht and Leyden, is called the *River Amstel*, and flows into an estuary of the Zuyder Zee, named the Y. Amsterdam is situated at the mouth of this branch.

The Meuse and the Scheldt each divide near their mouths into two main streams, all of which are connected together by other channels, the whole forming an extensive delta, in which are a great number of islands. The principal of these are the islands of Walcheren, North and South Beveland, Schouwen, Tholen, Goeree, and Overflakke, all but the two last of which are included in the province of Zeeland.

Holland contains numerous shallow lakes, or *meers*, mostly of small size, and situated in those portions of the country which adjoin the coast. The Haarlem Meer, which has recently been drained, was of much greater size than any of the meers now remaining, its waters having covered an area of more than seventy square miles. The Haarlem Meer was situated to the south-westward of Amsterdam, and communicated with the Zuyder Zee by the estuary of the Y. A vast number of the Dutch meers have been similarly drained at various periods, and their bottoms converted into rich pasture land.*

There are extensive marshes in many parts of the country.

* The drainage of the meers commenced as far back as 1440, since which period (including the area formerly occupied by the Haarlem Meer) 223,062 acres of land, or nearly 350 English square miles, have been reclaimed in this way in the provinces of North and South Holland alone. The lands thus drained, as well as similar sections recovered from the sea, or brought into a cultivable state by means of drainage, are called *polders*. Many of the polders are considerably below the level of high water. Their soil is various; when clayey, and the drainage is perfect, they are generally fertile, and are frequently cultivated,—but when the soil is mossy, or the drainage incomplete, they are employed as meadows. The drainage of the meers was formerly effected by the employment of windmills to raise the water to the required level, but powerful steam-engines were employed for this purpose in draining the Lake of Haarlem.

(244.) *Climate, Natural Productions, &c.*—Holland is colder than the opposite coasts of England in similar latitudes, and the winters are generally very severe. The navigation of the great canal between Amsterdam and the Helder is annually stopped by the ice for three months, and even the Zuyder Zee is sometimes frozen over. The atmosphere is very moist, owing to the great abundance of water, but the strong winds which frequently occur assist in removing the abundant exhalations from the surface of the marshes and canals, and prevent their being so prejudicial to health as would otherwise be the case. The eastern provinces are drier and more healthy than those immediately adjacent to the coast.

Timber is generally scarce, though plantations of oak, elm, beech, &c., have been made in many places. The canals are mostly lined on their banks with rows of willows and poplars.

The pools and marshy grounds abound with frogs and other reptiles, which are a favourite food of the storks. These birds are particularly numerous in Holland, where they remain during the period between the middle of February and the middle of August. The stork is a great favourite with the Dutch people, and is protected from injury by severe penalties. Excepting the domesticated quadrupeds, the larger animals are not met with.

Holland has few mineral productions, and no mines of any description: potters'-clay and fullers'-earth are met with, but building-stone requires to be imported. No coal is found, but extensive beds of marine peat occur, and are used for fuel.

(245.) *Inhabitants.*—The Kingdom of the Netherlands had, (in 1858) 3,524,000 inhabitants, a ratio of 259 to the square mile; an astonishing population, considering how large a proportion of the land has been artificially recovered from the sea, and only rendered fit for human habitation by the application of the most persevering industry. The people are chiefly Hollanders, or *Dutch*, who belong to the German stock; with some *Flemings*, *Germans* (chiefly in the provinces of Limburg and Luxemburg), and *Frison*s (the native race of Friesland). The Dutch are proverbially distinguished by their habits of cleanliness, industry, frugality, and attention to business. Jews are numerous in Holland, and 20,000 dwell in the city of Amsterdam alone.

(246.) *Industrial pursuits: Agriculture.*—Holland is rather a grazing than an arable country, and more attention is given to the rearing of live-stock and the produce of the dairy than to tillage. Cattle are everywhere numerous, and are gene-

rally of large size : the tract of country between Amsterdam and Utrecht is almost wholly rich pasture-land, on which great numbers of cows are kept. In the provinces of Friesland and South Holland by far the larger portion of the land is devoted to pasturage.

Oxen thrive well in the rich polders of this country, and are seldom stall-fed : the artificial grasses are consequently little grown. Dairy-husbandry is brought to great perfection, and immense quantities of butter and cheese are made and exported ; these form, indeed, one of the chief sources of national wealth. The breeds of sheep are not generally good, but they yield a great deal of coarse wool.

The principal grains cultivated are rye and buckwheat, next to which are oats and barley. Wheat is chiefly grown in the southern and central provinces, especially in the province of South Holland and in the neighbourhood of Utrecht. The country round Leyden, in South Holland, is called the *Rhymland*, and is a highly fertile tract. Flax is very generally grown in the south. Both woad and madder are raised in the provinces of Zeeland, South Holland, and Friesland. In Utrecht and Guelderland tobacco is a good deal cultivated, though not so much as formerly, and some quantity is exported. Potatoes, hemp, rape-seed, chicory, mustard, hops, and a variety of garden vegetables, are among the remaining objects of Dutch husbandry.

(247.) *Fisheries*.—These are by no means so considerable as formerly ; the herring-fishery is, however, pursued off the shores of the North Sea, and most of the produce cured and exported. The towns of *Schiedam* and *Vlaardingen* are the places whence it is chiefly carried on. The whale-fishery is also followed in the Greenland Seas, but not to a great extent.

(248.) *Manufactures*.—The principal manufactures are those of *woollen cloths* in Leyden, Utrecht, and Tilburg ; *silks* and *velvets* in Utrecht, Haarlem, and Amsterdam ; *linen* and *cotton goods* in Haarlem. But Holland is not distinguished as a manufacturing country, and those above mentioned are principally for home consumption. Paper, leather, cordage, white lead, borax, glue, vermilion, saltpetre, tobacco-pipes, and liqueurs, are also made.

In Amsterdam and other towns are extensive sugar-refineries. Haarlem has extensive bleaching factories. At Utrecht and Leyden large quantities of tiles and bricks are made, particularly a kind of small hard bricks called *clinkers*, which are used for paving the roads between many of the larger towns. At Amsterdam the manufacture of snuff and tobacco (which is extensively consumed by the people of Holland) gives employment to numerous labourers. The making of wooden clocks is a characteristic branch of industry in some of the small provincial towns.

There are numerous distilleries, and the liquor called Geneva, or Hollands, is extensively made at Schiedam (in the province of South

Holland) and elsewhere, and is largely exported. Ship-building is carried on to a considerable extent, chiefly at Rotterdam and Amsterdam, with other places in their neighbourhood; and the Dutch display great skill in this pursuit.

(249.) *Commerce.*—The *imports* of Holland consist chiefly of wool, grain, timber, coal, iron, brass, and copper; hides; linen, cotton, and woollen manufactures, hardware, and glass; besides colonial produce (including spices), wine and brandy, &c. The principal articles of *export* are the produce of her farms and dairies, as cheese and butter, with madder, clover, rape, hemp, flax, and linseed; also linen, salt fish and Hollands. Besides these are the productions of her colonies in the East and West Indies, and those of tropical countries in general, including coffee, sugar, tobacco, spices, raw cotton, tortoise-shell, and ornamental timber.

Holland has always possessed a great carrying trade in the produce of other countries, and her position at the mouths of some of the principal rivers gives her merchants the command of a considerable part of the commerce of the interior of Europe. Thus she exchanges the corn, manufactured linens, and timber, of Germany and Northern Europe, for the wines and brandy of France, the wool and dried fruits of Spain, the manufactures of Great Britain, &c.; and supplies many of these countries with the principal articles of tropical produce. The foreign trade of Holland therefore comprises nearly every article that enters into the commerce of Europe.

The principal trading ports are Amsterdam, Rotterdam, Middleburg, Flushing, Briel, Dort, Enkhuizen, and Zierikzee.

The internal trade is carried on almost entirely by means of *canals*, which in Holland serve the purposes of roads elsewhere, running through the principal streets of the towns, and extending in a complete network over the whole country. There are also some *railways* of recent construction, which run from Amsterdam westward to Haarlem, and in a south-easterly direction by Utrecht and Arnhem towards the German frontier.

(250.) *National Divisions.*—Holland is divided into ten provinces, besides the portions of Limburg and Luxemburg belonging to the Dutch Crown: the provinces are subdivided into districts and cantons. Luxemburg is properly a part of Germany, and is only attached to the kingdom of the Netherlands in consequence of the present sovereign being also Grand-Duke of that province.

The largest of the Dutch provinces are North Brabant and Guelderland, in the south and south-east; the smallest is Utrecht, adjacent to Guelderland on the west. North and South Holland, which contain the greater number of the large towns, are the most populous provinces;

that of Drenthe, in the north-east, which has a large proportion of heath and waste land, is most thinly populated.

(251.) *Provinces, Towns, &c.* — The names of the provinces, with the chief towns in each, and their population, are given below : —

Provinces.	Towns, with population.
North Holland - -	Amsterdam, 260,000 — Haarlem, 25,000 — Saardam, 11,000 — Hoorn, 8000 — Alkmaar, 9000 — Enkhuizen, 5000 — Broek, 1200.
South Holland - -	Rotterdam, 96,000 — the Hague, 72,000 — Leyden, 36,000 — Dordrecht, 30,000 — Delft, 17,000 — Gouda, 13,000 — Schiedam, 12,000 — Vlaardingen, 7000 — Briel, 4000 — Gorkum, 8000 — Hellevoetsluis.
Zeeland - - - -	Middleburg, 16,000 — Flushing, 7000 — Zierikzee, 7000 — L'Ecluse, 1500.
North Brabant - -	Hertogensbosch (as French, Bois-le-Duc), 21,000 — Tilburg 10,000 — Breda, 15,000 — Bergen-op-Zoom, 7000 — Oosterhout, 4000.
Utrecht - - - -	Utrecht, 49,000 — Amersfort, 12,000.
Guekderland - -	Nimeguen, 21,000 — Arnhem, 15,000 — Zutphen, 12,000 — Nieuw-kerk, 5000.
Overysse - - - -	Zwoll, 18,000 — Deventer, 14,000 — Kampen, 10,000.
Drenthe - - - -	Meppel, 6000 — Assen, 2700.
Friesland - - - -	Leeuwarden, 24,000 — Harlingen, 8000 — Sneek, 7700.
Groningen - - - -	Groningen, 33,000 — Delfsyl, 3000.
Limburg - - - -	Maestricht, 25,000 — Weert, 2000 — Venloo, 5000 — Roermond, 7000.
Luxemburg - - - -	Luxemburg, 16,000.

(252.) *Amsterdam*, the largest city in Holland, and the great emporium of its commerce, is situated on the south side of the estuary of the Y, at the mouth of the river Amstel, which separates it into two nearly equal parts. It is also intersected by numerous canals, which divide it into a great number of islands, and are crossed by no less than 290 bridges, some of stone, others of wood. The streets are generally straight and well-paved; the houses are all built of brick, and painted of various colours.

The vast ship-building yards, and magazines of marine stores, are among the most striking objects in Amsterdam: it contains also a great many scientific and literary institutions. The royal palace is called the Stadt-house, which is a fine building, raised on a foundation of more than 13,000 piles. The mouths of the canals which open into the Y, and also that of the Amstel, are provided with strong flood-gates, and on the side of the town nearest the sea a strong dyke is erected to guard against inundations. The harbour is spacious and secure, and the largest ships come close up to the quays and warehouses.

Saardam, to the n. w. of Amsterdam, on the opposite side of the Y, is noted for its building-yards, in which Peter the Great, of Russia, spent some time (as he subsequently did in the dockyard of Deptford, in our own country), for the purpose of learning the art of ship-building.

Haarlem, to the west, and *Alkmaar* to the north-west, of Amsterdam, are both flourishing towns. A few miles to the northward of Alkmaar, the village of Camp, on the coast of the North Sea, recalls the memory of the battle of Camperdown, fought in 1797 on the adjacent waters, between the English and Dutch fleets, under Duncan and De Witt.

(253.) *Rotterdam*, situated on the north bank of the principal arm of the Meuse, is the second city in the kingdom in populousness and com-

mercial importance : by the aid of canals, vessels of the largest size come up to the warehouses in the heart of the town.

The Hague (properly *S'Gravenhagen*, or, in French, *La Haye*), situated 32 miles to the s. w. of Amsterdam, and 3 miles from the sea-coast, is one of the best-built cities in Europe. Its streets are wide, straight, and paved with brick, and its square covered with fine plantations. The Hague is the seat of government, and of the supreme court of justice, and ranks therefore as the capital of the kingdom. It contains important scientific institutions, the principal of which is the Royal Museum, which has a library of 100,000 volumes, and is rich in manuscripts, besides a fine collection of medals, and various works of art.

Leyden, on the stream distinguished as the Old Rhine, at a distance of six miles from the sea, is an ancient city, celebrated for its university, which is much resorted to by students from other countries as well as from every part of Holland. It constitutes the literary capital of the Netherlands.

(254.) The city of *Utrecht*, the capital of the province of that name, is situated on the Rhine, and is also the seat of a university. It has considerable inland trade.

Nimeguen, the capital of Guelderland, is an ancient and strongly fortified town on the south bank of the Waal, near the Prussian frontier. *Zutphen*, in the same province, has been rendered famous by the battle which bears its name, fought in 1586, and in which the gallant Sir Philip Sidney received his fatal wound.

Groningen, in the most north-eastern province of the kingdom, likewise contains a university, and is a large well-built town.

Luxemburg, the capital of the Grand Duchy of that name, is a considerable town, and is reckoned one of the strongest fortresses in Europe. The other fortified towns are, *Maestricht*, *Breda*, *Bergen-op-Zoom*, *Bois-le-Duc*, and *Flushing*.

(255.) The towns in Holland, both large and small, are in general distinguished by very similar and uniform features ; the streets are mostly wide and straight, with canals running down the middle, and rows of trees on either side. The houses are chiefly built of red brick, and are generally from four to five stories in height. Add to these the vast number of windmills which everywhere occur, especially in the suburbs of the larger towns, and the richly cultivated gardens and fields, with the numerous herds of cattle which are seen in all directions, and we have the prevalent characteristics of Dutch landscape.

(256.) The *government* of Holland is a limited, hereditary monarchy. The legislature, called the States-General, consists of two chambers, the members of one of which are nominated by the Sovereign ; those of the other are elected by various classes of the nobility, the population of the towns, and the inhabitants of the rural districts. Each province has likewise its own states, composed of deputies chosen by the three orders mentioned above.

There is no established religion in Holland, but the great majority of the people are Protestants, chiefly of the Calvinistic faith. The ministers of all sects, however, are paid by the government.

Public education is in a highly advanced condition, more so than in any other country in Europe, except Prussia and a few of the smaller

German states. There exists a regular system of elementary schools, established by the State, and in which all classes of the population receive instruction at a very trifling cost. These are divided into the *Armen*, or poor schools, and the *Tusschen*, or intermediate schools. No person is allowed to exercise the functions of teacher, either in these or in private schools, without first obtaining a certificate of competency from a regularly constituted board of inspectors.

Holland is not distinguished as a military power, and only a small standing army is maintained ; her fleet is more considerable, and the Dutch have always been distinguished in maritime warfare. The amount of her commercial marine is very great, and inferior in number and tonnage only to that of Britain.

(257.) *Colonies*. — The foreign possessions of Holland are Java, parts of Sumatra, Borneo, and Celebes, with Amboyna and many of the small islands of the East Indian Archipelago, in *Asia* : — some ports on the coast of Guinea, in *Africa* : — and part of Guiana, with several of the small islands of the West Indies, in *America*. These, especially the East Indian Colonies, are of considerable importance to the Dutch foreign trade.

Besides the countries described in this Chapter — Denmark, Norway, and Sweden, in the *north*, as well as Spain and Portugal in the *south*, are also situated on the western side of the European Continent. But the former of these will be more properly described along with the countries of Northern Europe, and the latter with those of Southern Europe (Chapters VII. and VIII.).

CHAPTER VI

THE COUNTRIES OF CENTRAL EUROPE.

SECTION I. — SWITZERLAND.

(258.) *Boundaries and Extent.* — SWITZERLAND is an inland country, bounded on the north and east by Germany, on the south by Italy, and on the west by France. Its greatest length from east to west is 208 miles, and its extreme breadth, from north to south, 156 miles.

The superficial area of Switzerland is 15,261 English square miles,—little more, that is, than a fourth part of the dimensions of England and Wales, and about two-and-a-half times greater than the magnitude of the county of York.

(259.) *Surface.* — Switzerland is altogether a mountainous country: two-thirds of its surface consist of lofty mountain-chains and Alpine valleys, and the remainder is a high plain, elevated about thirteen hundred feet above the level of the sea. This plain stretches across the country from north-east to south-west, between the lakes of Constance and Geneva, and separates the chains of Mount Jura from the main ranges of the Alps.

The principal features of the Alps have been described in Art. 23. In the south-west of Switzerland they consist of two principal chains, between which is the valley of the river Rhone. The more southern of these chains (which forms a part of the frontier between Switzerland and Italy) is distinguished as the *Pennine Alps*;—that on the north side of the Rhone is called the *Bernese Alps*, some of the higher summits of which nearly equal in altitude the highest points of the entire mountain-system. Near the point whence these two chains diverge is Mount St. Gothard, which forms the nucleus of an extensive system of ranges that are spread in various forms over all the eastern, south-eastern, and central, parts of the country.

All the higher parts of the Alps rise above the line of congelation, and the immense quantities of snow accumulated on their summits are continually being precipitated down their sides into the valleys beneath, where they often occasion serious devastation, sweeping trees and rocks before them, interrupting the courses of the streams, and sometimes burying whole villages, with all their inhabitants. These falls of snow are called *avalanches*, the distant noise of which — as they descend the mountains, increasing in size and velocity as they advance — is heard like the rolling of thunder, or the rumbling of an earthquake, and warns the villagers of their approach. Still more serious damage is sometimes occasioned by *land-slips*, when (owing to the expansive force of water while in process of freezing, or to other natural causes) large masses of earth and rock are torn from the sides of the mountains and precipitated into the valleys, — sometimes by a gradual descent, and at others with rapid and sudden violence.

The chains of *Mount Jura* present a very different appearance to the Alps, and are covered to their summits with magnificent pine-forests. No part of them reaches the elevation of perpetual snow; they are generally more precipitous and abrupt on the Swiss side, and descend with a gradual slope towards France.

The *plain of Switzerland* is not level, but covered by undulating eminences, some of which rise to considerable height: the lower portions of this region, like the valleys of the more strictly Alpine tracts, are frequently the basins of lakes.

(260.) *Rivers and Lakes.* — The two most considerable rivers of Switzerland are the Rhine and the Rhone, both of which have their sources in the high mountain region which lies around Mount St. Gothard. The Rhine flows north-eastward into the lake of Constance, and thence along the northern frontier of the country. The upper portion of the Rhone has an opposite, or south-west, course, afterwards entering the Lake of Geneva, which it leaves near the borders of France. The river Aar joins the Rhine about 50 miles below Lake Constance, and brings with it the waters of an extensive system of lakes and rivers, which includes the *Lake of Zurich*, drained by the river Limmat (a tributary of the Aar); *Lake Lucerne*, or the Waldstatter See, out of which flows the river Reuss; the Lakes of *Thun* and *Brienze*, both in the upper portion of the proper valley of the Aar; and the Lakes of *Neufchatel* and *Bienne*, connected with the Aar by the river Thiel. Besides these are many smaller lakes belonging to the basin of the Rhine, and connected with that river by means of its various tributaries.

In the east of Switzerland is the upper part of the river Inn, a considerable affluent of the Danube (Art. 38.): the valley through which it flows forms a district called the *Engadine*.

The river Tessin, or Ticino, which belongs to the basin of the Po, has its source in Switzerland, near the group of Mount St. Gothard, and flows through the Lake of Maggiore, a small portion of which is within the Swiss frontier. The smaller Lake of Lugano, to the eastward of Lake Maggiore, is almost wholly within Switzerland.

The numerous mountain-torrents frequently form cataracts in their descent, and some of these are distinguished by great beauty. One of the most celebrated is that called the *Staubbach*, formed by a small tributary of the Aar, which is said to fall from a perpendicular height of 800 feet, and is probably the loftiest cascade in Europe. The falls of the Rhine, below Schaffhausen, are also much celebrated.

In its towering mountains and vast glaciers, its beautiful lakes and smiling valleys, its numberless Alpine streams and glittering cascades, Switzerland combines in an eminent degree all the various features of grand and striking scenery, and possesses in this respect attractions superior to those of any other country in Europe.

(261.) *Climate, Productions, &c.* — The climate of Switzerland is cold, owing to the elevation of great part of the country. The frosts prevail long in spring, and recur early in autumn; storms of hail and snow are frequent, and often of great violence. An intense degree of heat is nevertheless experienced in some of the narrow valleys among the Alps, owing to the excessive radiation from the sides of the mountains, and to the confinement of the air, which they prevent from being properly circulated by the wind.

The productions of the vegetable kingdom resemble those of Central Europe, and vary with the increasing elevation of the ground, as described in Art. 65. The vine grows in the valleys, on the banks of the lakes and rivers, and extends to a height of about 1700 feet above the sea. Among the native animals, the ibex and the chamois, both of the goat tribe, and the Alpine marmot, are the most characteristic (Art. 71.). The marmots dwell among the mountains, in families, and form underground burrows, passing the winter in a state of lethargy, during which time they require no nourishment. Their fur is thick and warm, and forms a valuable article of clothing. The wolves, and also the foxes, are both numerous and formidable.

Of the domestic quadrupeds, the breed of Alpine spaniels kept by the monks of St. Bernard are much celebrated, on account of the wonderful sagacity which they display in rescuing travellers from the snow. The Convent or Hospice of the Great St. Bernard is situated at a height of 7963 feet above the sea, near the summit of the mountain-pass, and in a region where the most severe storms, accompanied with avalanches, frequently occur. These dogs, which are strong and active animals (about 2 feet in height and 6 feet long), are trained by the monks to the task of seeking out travellers who may have lost their way over the mountains or been benumbed by the cold, which they accomplish with

wonderful instinct and sagacity, being furnished with the means of rendering assistance to the wayfarer by a basket of provisions fastened round the neck, or some similar contrivance.

Both eagles and vultures are numerous in the high mountain regions, and one species — the bearded vulture — is almost peculiar to this country. Its strength is so great that it will attack sheep, lambs, and young stags, and even the chamois and the ibex sometimes fall victims to its rapacity. It builds amidst such inaccessible precipices that its nest is rarely seen.

The mineral productions are various, but they are not extensively worked. There are mines of iron, copper, and lead, in the canton of Grisons (in the east of Switzerland), and also in several other parts of the country. Mineral springs are very numerous, particularly in the canton of Berne, and many of them are greatly resorted to by invalids. The baths of *Pfegg* (in the canton of St. Gall), and those of Baden (in Aargau), are also among those of greatest celebrity.

The higher parts of the Alps consist generally of primitive rocks, as granite, gneiss, and various schists (or hardened slates). Below these are formations of secondary limestone, analogous to the oolites of our own country; and the chains of Jura also belong to this series. The plain which intervenes between the Alps and Mount Jura is formed chiefly of tertiary rocks, consisting of sand, with various clays and marls. There are extensive slate-quarries in several parts of the country.

(262.) *Inhabitants.* — The people of Switzerland belong to two of the principal stocks of European nations, — the German or Teutonic, and the Greco-Latin (Art. 81). People of German extraction occupy all the central, eastern, and northern, parts of the country, and form about seven-tenths of the entire number of inhabitants. In these districts various dialects of the German language are generally spoken, and German is used as the official language of the general government. The Greco-Latin stock is confined to the south and west, and embraces people of the French family in the cantons bordering on the lakes of Geneva and Neufchatel, and Italians in the canton of Tessin, which lies to the south of the Alps. In the upper part of the Enghadine, and the adjacent mountain-tract towards the sources of the Rhine, are a people who speak a language much more nearly allied to the ancient Latin tongue than either the modern French or Italian. The French language is very generally understood by the upper classes throughout the country, and is the language of the people at large in the cantons of the west and south, — excepting in that of Tessin, where Italian prevails.

The population of Switzerland amounts to 2,395,000, a proportion of 156 inhabitants to a square mile, — a higher

ratio than that of either Turkey, Spain, or Portugal, countries which greatly surpass it in natural advantages and productiveness. This higher rate of population is in a great measure the result of the superior industry and economy of the Swiss as compared with the peasantry of the more southern regions of Europe.

(263.) *Industrial pursuits.*—Switzerland is chiefly a pastoral country, and nowhere is the produce of the dairy carried to greater perfection. The soil seems designed by nature for the feeding of cattle; and the cows, goats, and sheep, which form the wealth of the Swiss farmer, derive their support from the grass on the mountain-sides, and thrive in districts where the inequalities of the ground prevent the plough or the spade from being used. In summer the cattle are attended on the mountains by herdsmen, who live in rude log-huts, or *chalets*, to which the persons whose employment it is to milk the cows, and to make cheese and butter, repair for this purpose. In winter the cattle return to the valleys and lower grounds. The cheese made in many districts is highly esteemed, and is largely consumed in the neighbouring countries, and indeed in all parts of Europe.

Notwithstanding the natural difficulties presented by the ruggedness of the surface, agriculture is extensively practised and well understood. The Swiss farmers particularly excel in the culture of natural and artificial pastures, and the meadows are mown with peculiar care and diligence. Wheat is produced in the lower plains; and potatoes, barley, and rye, are generally grown. But the produce is not sufficient for the required consumption, and corn is imported, chiefly through Italy. Wine is made in a few districts. Timber is abundant on the lower declivities of the mountains, and forms an article of export to other countries. Trunks of trees are propelled with inconceivable rapidity down the icy slopes of the mountains, and afterwards floated in rafts down the rivers.

(264.) *Manufactures* hold a high rank in the industry of some parts of Switzerland, and are pursued most extensively in the cantons of the north and west,—especially in those of Zurich, Basle, Geneva, Neufchatel, Glarus, St. Gall, and Appenzell. The cotton manufacture has flourished of late years, and the making of silks and ribbons is extensively carried on. The domestic manufacture of coarse cloth from the fleeces of their sheep, and of linen from flax grown by themselves, is very common among the peasantry. Agricultural labour is often combined with attention to the loom, each engaging alternately the industry of the artizan.

But the making of watches, musical boxes, and jewellery, is a more especial characteristic of Swiss manufacturing industry. Watches are made in immense numbers at Geneva, and at various places in the canton of Neuchatel, and are largely supplied to France, England, and other countries, from eight to ten thousand being imported into England annually. There are also manufactures of leather, paper, gloves, lace, straw hats, hardware, arms, and various other articles.

(265.) *Commerce.* — Notwithstanding the disadvantages of an inland position, and the existence of a high mountain-barrier on a large portion of the frontier, a considerable amount of foreign trade is carried on. Switzerland supplies the neighbouring countries with the produce of her pastures and dairy-farms, and receives in return the articles in which her own agriculture is deficient, together with the richer productions of tropical regions. The chief *imports* are corn, salt, salt-fish, wine and brandy, fruits, silk, cotton, tobacco, coffee and other colonial produce ; with various manufactured articles, particularly fine cloth, iron and copper utensils, books and furniture. The principal *exports* are cattle, cheese and butter, tallow, salted tongues, timber, charcoal, silk stuffs and ribbons, watches, musical boxes, and jewellery.

The towns of Basle and Geneva are the principal seats of the foreign trade ; Berne, Zurich, and Lucerne, the chief marts of internal commerce. The facilities for travelling are, in general, great, and the magnificent roads which have been constructed across the mountains have greatly extended the means of communication with the neighbouring countries. Nearly all the principal towns throughout the northern and western cantons are connected by railways, the total length of which now opened exceeds 500 miles. Steam-boats are used for traffic on all the principal lakes.

(266.) *National divisions.* — Switzerland embraces 22 cantons, of very unequal size. The two largest—those of Grisons and Berne—are each about equal in magnitude to the English county of Devon ; those of the smallest size — Zug and Geneva — are not more than two-thirds of the area of Rutlandshire. Until lately the towns of Zurich, Berne, and Lucerne, were each the seat of the general government for periods of two years in succession, but Berne has now been chosen as the political capital of the country.

The names of the cantons, with the principal towns in each, are as follow :—

Cantons.	Towns, with population.
Zurich - - - -	Zurich, 17,000 — Winterthur, 5300.
Berne - - - -	Berne, 27,000 — Thun, 3300 — Bienne, 3400 — Unterseen.
Lucerne - - - -	Lucerne, 10,000.
Zug - - - -	Zug, 3000 — Morgarten.
Schweitz - - - -	Schweitz, 2400.
Unterwalden - - -	Stanz, 2000 — Sarnen, 2000.
Uri - - - -	Altorf, 2000 — Andermatt.
Glarus - - - -	Glarus, 4000.
St. Gall - - - -	St. Gall, 11,000 — Wallenstadt.
Appenzell - - - -	Appenzell, 1500 — Herisau, 8000 — Trogen, 2600.
Thurgau - - - -	Frauenfeld, 3500.
Schaffhausen - - -	Schaffhausen, 7000.
Aargau - - - -	Aargau, 4000 — Baden, 2700.
Basle - - - -	Basle, 27,000 — Liestal, 3000.
Soleure - - - -	Soleure, or Solothurn, 5000.
Neufchatel - - - -	Neufchatel, 7700 — Locle, 8000 — Chaux de Fonds, 12,000.
Fribourg - - - -	Fribourg, 9000 — Morat.
Vaud - - - -	Lausanne, 14,500 — Vevay, 5000 — Yverdun, 3600 — Chillon.
Geneva - - - -	Geneva, 36,000.
Valais - - - -	Sion, or Sitten, 3500 — Martigny — Brieg.
Tessin - - - -	Bellinzona, 1900 — Lugano, 5000 — Locarno, 2600.
Grisons - - - -	Chur or Coire, 6000 — Tüsis — Disentis — Splügen.

(267.) *Zurich* is situate at the northern extremity of the beautiful lake to which it gives name, on both banks of the river Limmat. It is distinguished for the literary taste of its inhabitants, and possesses numerous institutions for the cultivation of learning, including a considerable public library. The small town of *Winterthur*, 12 miles to the N.E., has extensive manufactures.

Berne, situated on the left bank of the river Aar, at an elevation of 1700 feet above the level of the sea, is a remarkably well-built and handsome town, the streets of which are adorned with numerous ornamental fountains. It possesses an University, and several scientific institutions. Six miles to the N. is *Hofwyl*, the seat of the celebrated educational establishment founded by M. de Fellenberg. The beautiful lakes of Thun and Brienz, to the south-eastward of Berne, lie adjacent to the magnificent scenery of the Bernese Oberland, as the elevated tract which forms the southerly division of the canton is called. The river Aar issues from the lower extremity of the Lake of Thun.

Lucerne is a small town built on both banks of the river Reuss, where it issues from the winding Lake of Lucerne. It forms the capital of the Catholic portion of Switzerland. The four cantons of Schweitz, Uri, Unterwalden, and Lucerne (called the Forest Cantons), lie around the shores of the lake, which is hence often distinguished as the Waldstatter See, or Lake of the Forest Cantons. To the S. W. of Lucerne, *Mount Pilate* rises above the town to an elevation of 7080 feet above the sea, and contains a small lake on its summit. On the east side of the lake (and within the canton of Schweitz) is the mountain called the *Rhigi*, which is often visited by travellers, and which commands an extensive and fine view from its summit. The Forest Cantons are almost entirely pastoral, and constituted the original nucleus of Swiss liberty and independence.

The town of *St. Gall* (7 miles distant from the S. W. shores of the Lake of Constance) is an industrious and commercial place, the centre of an extensive manufacture of fine cloths and muslins.—*Schaffhausen*, on

the n. bank of the Rhine, has considerable transit trade ; about two miles below this town are the Falls of the Rhine, which form a magnificent cataract,—where the river, after passing through a succession of rapids, bursts in three distinct branches over a precipice of more than 80 feet in height.

Basle or *Bâle* (in German, *Basel*) is situate at the great bend of the Rhine, where the river turns to the northward,—chiefly on its left bank. It contains a fine cathedral, and possesses a University, with several institutions for the cultivation of literature and science, and, like Zurich, is distinguished for the intellectual spirit of its inhabitants. *Basle* is also the seat of considerable trade, and has railway communication with the south-western part of Germany and the eastern departments of France, besides the extensive traffic of the Rhine.

Soleure, to the s. by w. of *Basle*, is on the river Aar. *Neufchatel*, in the canton of that name, with *La Chaux de Fonds* and *Le Locle*, both in the same canton, flourish by means of the watch-making and jewellery trades. *La Chaux de Fonds*, in particular, has greatly increased in population and industry within recent years.

Fribourg, on the banks of the river Sarine (an affluent of the Aar), is noted for its cathedral, and also for a magnificent suspension bridge across the river, one of the longest and most elevated in Europe. It is divided by the inequalities of the ground on which it stands into an upper and a lower town, and most of the inhabitants of the former speak French, while those of the lower town use the German language. — *Lausanne* lies on the northern shore of the Lake of Geneva, and is remarkable for the beauty of its situation. It contains a cathedral, a college, and several scientific institutions. All the northern and north-western shores of the lake are studded with picturesque villages and private residences.

Geneva, situated at the foot of the beautiful lake usually called by its name, is divided into two parts by the river Rhone, which flows through it in a remarkably limpid stream, forming an island in its course. It is the largest town in Switzerland, and its inhabitants are distinguished for their industry ; about 100,000 watches (chiefly gold) are said to be made every year, besides a great quantity of jewellery, and this branch of manufacture constitutes the main source of the prosperity of the city. *Geneva* is also highly distinguished as a seat of learning, and has a celebrated academy, besides numerous other educational and literary institutions. The Lake of Geneva is often called the Lake of Lausanne, and sometimes also the *Leman Lake*, but is more generally distinguished by the first-mentioned name.

(268.) Switzerland constitutes a federal republic. Each of the cantons has an internal government of its own, and the general direction of the affairs of the whole country is regulated by an assembly called a Diet which embraces a national council and a senate, both consisting of deputies chosen by the various cantons. The town of *Berne* is the seat of the federal assembly.

Each of the Swiss cantons is, however, a separate state, and the forms of government which prevail in them are very various. Some are representative republics, while in others the chief power is in the hands of the upper classes, and one—*Neufchatel*—was, until 1848, a principality de-

pendent on the Prussian Crown ; but it is now an independent member of the confederation. The cantons of Basle, Appenzell, and Unterwald, have of late years each been divided into two parts, both portions possessing their separate local governments. The entire number of cantons embraced in the confederation is still, however, regarded as only twenty-two.

In religion the population is divided between Protestantism and Popery. About six-tenths of the entire number of inhabitants are members of the reformed Church, and these embrace chiefly the cantons of the north and west,—those in which manufacturing industry is most developed, and in which the condition of the people is most advanced, including Zurich, Berne, Basle, Schaffhausen, Vaud, Neufchatel,—the greater part of Geneva, Aargau, Thurgau, and Glarus,—and portions of several of the other cantons. The cantons in which the Roman Catholic religion prevails are chiefly the more mountainous districts of the centre and south, where the population is almost entirely pastoral.

Education is in a highly advanced state in many parts of Switzerland, especially in the Protestant cantons. In these, elementary instruction is generally diffused among all classes, and the methods of teaching which have been employed in Switzerland have furnished a model for imitation by the rest of Europe. In the towns of Switzerland, as in Germany, public libraries are numerous ; the pursuit of science and literature is held in high esteem, and the country has at all times been celebrated for the many distinguished scholars whom it has produced. The social condition of the population has of late years been much disorganized in some parts of Switzerland, owing both to religious and political differences, but the country is now in a more settled state.

Like the inhabitants of mountain-countries in general, the Swiss are distinguished by their love of independence, and their intense affection for their native land. Many of them leave home in search of the means of obtaining a livelihood, and engage in trade or other pursuits in foreign countries, but almost invariably return to spend their earnings among their native mountains.

SECTION II.—GERMANY — THE AUSTRIAN EMPIRE.

(269.) GERMANY (in the German language, *Deutschland* ; in French, *Allemagne*) embraces a large portion of Central Europe, extending in a north and south direction from the shores of the Baltic Sea to the head of the Adriatic ; and from France, Belgium, Holland, and the North Sea, on the west, to the borders of Poland, Galicia, and Hungary, on the east. Its greatest extent in latitude (between the parallels of $45^{\circ} 30'$ and $54^{\circ} 49'$) is about six hundred miles, and its extreme length (between the meridians of $5^{\circ} 48'$ and $19^{\circ} 30'$ east of Greenwich) is six hundred and seventy-eight miles. Regarded as a whole, the shape of Germany is square and compact ; its total area is 244,600 English square miles.

The country comprised within the above limits does not form one government, but is parcelled out amongst numerous states. The principal of these are the Empire of Austria, which includes nearly one-third of the entire extent of Germany; and the Kingdom of Prussia, to which belongs a portion of rather less extent, but equal to about two-sevenths of the whole: besides which are several other states, of various magnitudes, and various degrees of political importance. The entire number of German States, including Austria and Prussia, is thirty-five.

Both the Empire of Austria and the Kingdom of Prussia, besides the German provinces that belong to each, comprehend also other countries, the inhabitants of which are of different race from the people of Germany, and are distinguished by difference of language, habits, and pursuits. The geography of this portion of Europe is hence rendered complicated, and difficult of description.

We shall first describe the Austrian and Prussian dominions, distinguishing the German provinces of each from their territories beyond the limits of Germany, and afterwards notice the smaller states amongst which that country is divided.

THE AUSTRIAN EMPIRE.

(270.) *Boundaries and Extent.* — The Empire of Austria is bounded on the north by Poland, Prussia, and the Kingdom of Saxony, — on the west by Bavaria, Switzerland, and the Kingdom of Sardinia, — on the south by the smaller Italian states, the Adriatic Sea, and Turkey, — and on the east by Turkey and Russia. Its greatest length, between the shores of Lago Maggiore on the west, and the extreme limits of Transylvania on the east, is 860 miles, and from north to south the average breadth of its larger portion exceeds 400 miles. The total area of the empire is nearly 250,000 English square miles, — more than twice the magnitude of the British Islands, and greater than that of any other European state, excepting Russia.

In shape the Austrian Empire forms a solid and compact mass, and its boundaries are in great part formed by natural features, — on the south by a portion of the course of the Danube and its great tributary the Save, — on the south-east by the ranges of the Carpathians, — on the north and north-west by some of the chains belonging to the Hercynian mountain-system, — and on the south-west by the line of the Po and the waters of the Adriatic. The whole length of its frontier line is upwards of 4250

miles, the maritime portion of which is confined to the shores of the Adriatic, and bears but a very small proportion to its entire extent. The whole length of sea-coast is only about 500 miles, exclusive of the numerous small islands which adjoin the mainland.

The following Table exhibits the present division of the Austrian Empire, with the area and population of the countries it comprises:—

		Area in Eng. sq. miles.	Popu- lation.	No. of Inhabitants to sq. mile.
1. Austria (Upper and Lower)	- -	12,285	2,470,000	201
2. Salzburg	- - - -	2,766	154,000	55
3. Styria	- - - -	8,669	1,095,000	126
4. Carinthia	- - - -	4,005	346,000	86
5. Carniola	- - - -	3,856	506,000	131
6. The Littoral (comprising Trieste, Goritz, Gradisca, and Istria)	- -	3,084	613,000	198
7. Tyrol and Vorarlberg	- -	11,106	925,000	83
8. Bohemia	- - - -	20,058	4,800,000	239
9. Moravia	- - - -	8,582	1,972,000	229
10. Silesia	- - - -	1,987	479,000	241
11. Galicia, with Cracow	- - - -	30,229	5,057,000	166
12. Bukowine	- - - -	4,028	430,000	106
13. Dalmatia	- - - -	4,939	432,000	87
14. Venetia	- - - -	9,220	2,494,000	270
15. Hungary	- - - -	69,399	8,744,000	126
16. The Banat	- - - -	11,581	1,574,000	135
17. Croatia and Slavonia	- - - -	7,071	967,000	136
18. Transylvania	- - - -	22,422	2,286,000	97
19. The Military Frontier	- - - -	12,952	1,055,000	81

(271.) The first ten of the above provinces (with the exception of part of the circle of Istria) are within the limits of Germany.

1. *Austria Proper* extends along both banks of the River Danube, from the frontiers of Bavaria to the junction of the March or Morava, below Vienna, and the upper portion of the province stretches southward to the high chains of the eastern Alps. The division between Upper and Lower Austria is marked by the course of the small river Enns, an affluent of the Danube on its right bank.

2. *Salzburg* is a mountainous territory adjacent to the south-west portion of Austria proper and the Bavarian frontier. It extends over both banks of the river Salzach, an affluent of the Inn (one of the chief tributaries of the Danube).

3. *Styria* extends southward from Lower Austria to the banks of the Save, between Upper Austria on the west and Hungary on the east.

4, 5, 6. *Carinthia*, *Carniola*, and the *Littoral* (or Coast-region) are comprehended under the general name of *Illyria*. They embrace the mountainous range of territory extending southward from Styria to the head of the Adriatic, and diversified by the eastward portions of the Alpine system. Carinthia is watered by the upper portion of the river Drave: Carniola includes the head of the Save valley, as well as Lake Zirknitz and the limestone caves of Adelsberg.

7. *Tyrol* extends from Upper Austria across the ranges of the eastern Alps, to the shores of the Lake di Garda, on the south side of the mountains, and embraces the upper portions of the valleys of the Inn (an affluent of the Danube) and the Adige (which flows into the Adriatic

Sea). The district called the *Vorarlberg* lies to the north-westward of Tyrol, and adjoins the Lake of Constance.

8. *Bohemia* is the north-western province of the empire, and belongs almost wholly to the basin of the river Elbe.

9. *Moravia* lies to the eastward of Bohemia (from which it is divided by a chain of hills, called the *Mährische Gebirge*, belonging to the system of the Hercynian Mountains), and to the north of Lower Austria. It is watered by the river March or Morava, which belongs to the basin of the Danube.

10. Austrian *Silesia* adjoins the Prussian province of that name on the northward, and is divided from Moravia on the south by the Sudetic Mountains, a portion of the Hercynian system.

The total area of the above provinces is considerably less than a third part of the whole extent of the Austrian Empire.

(272.) The province of *Galicia*, in the north-east, is divided from the other parts of the empire by the Carpathian Mountains, and was formerly a part of the kingdom of Poland. The south-eastern part of this province, watered by the Dniester, is distinguished as the *Bukowine*.

Transylvania, at the south-eastern extremity of the empire, is a mountainous territory, covered by the offsets of the Southern Carpathians and other ranges belonging to the Carpathian mountain-system (Art. 24). It is watered by the upper courses of the Maros, Aluta, and other tributaries of the Danube, within the basin of which river it is entirely comprehended.

Hungary extends from the Carpathian Mountains and the frontiers of Transylvania, on the north and east, to the borders of Moravia, Lower Austria, and Styria, on the west. In the south-eastern part of the Hungarian plain is the *Banat*, a district intermediate between the mountains of Transylvania and the courses of the rivers Maros, Theiss, and Danube.

Slavonia is a long and narrow tract of country lying between the Danube, and its tributaries, the Drave and the Save. Further to the westward, the province of *Croatia* extends from the banks of the Drave to the coast of the Adriatic. *Dalmatia* (to the south of the last-named territory) is a narrow and mountainous strip of land lying between the range of the Dinaric Alps and the eastern shore of the Adriatic. *The Military Frontier* is a long and narrow tract which extends along the whole south-eastern frontier of the empire, from the coast of the Adriatic Sea to the eastern borders of Transylvania. It forms a strongly fortified frontier-line, lying along the courses of the Danube, the Save, and other tributaries of that river.*

Hungary and Transylvania, with the Banat, Slavonia, Croatia, Dalmatia, and the Military Frontier, are comprehended under the general

* The name of the Military Frontier is derived from the circumstance of the frequent wars formerly carried on by the Austrians and Hungarians against the Turkish power having made it requisite to keep these provinces in a constant state of defence. A chain of armed posts is maintained along the whole line, and all its inhabitants are required to be in constant readiness to take up arms when called on by the government.

name of the Hungarian countries, and form a vast and compact territory, which constitutes more than half the entire extent of the Austrian Empire.

The province of Venetia lies to the south of the Alps, and forms a portion of Italy. It is described in a succeeding chapter (p. 280).

(273.) *Surface.*—The different provinces of the Austrian Empire exhibit great diversity of surface. Upper Austria, Styria, Tyrol, and a large part of Illyria, are covered by the various chains of the Alps, which (especially in Tyrol) rise to a great elevation, so that these territories consist chiefly of high mountain-valleys, which gradually widen along the banks of the rivers (Art. 23).

Bohemia is a fertile plain, enclosed by mountain-ranges of less elevation than the above (Art. 25). Lower Austria, Moravia, and Silesia, with the western and northern portions of Hungary, are hilly on their borders, but level towards the banks of the rivers.

The greater part of Hungary, with the adjoining provinces of Slavonia and the Banat, is an immense plain, watered by the Danube (Art. 32). The province of Galicia is hilly on its south-western border, but level in the greater part of its extent, which belongs to the region of the great plain of eastern Europe.

(274.) *Rivers.*—The principal river of Austria is the Danube, with its great tributaries, the Drave, the Save, the Theiss, the March or Morava, and the Inn, besides numerous affluents of those streams (Art. 38). Considerably more than two-thirds of the whole extent of the empire are drained by the Danube, which forms the great highway of communication between its different provinces.

Bohemia is watered by the upper course of the Elbe, and its tributary the Moldau; the drainage of Galicia belongs to the Vistula, the Dniester, and other rivers of the great plain (Arts. 36 and 38).

Hungary has the two large lakes of Balaton and the Neusiedler See (Art. 43), and small lakes are numerous in the mountainous regions both of the Alps and the Carpathians.

(275.) *Climate, Productions, &c.*—The diversities of climate are considerable. The Alpine provinces, the tracts bordering on the Carpathians, and the mountainous borders of Bohemia and Moravia, are colder than the more level regions in similar latitudes; while the plains of Hungary,

the interior of Bohemia, and the level tracts of Galicia, have a higher average temperature, but experience great extremes of heat and cold. In Tyrol, the higher portions of the mountains rise above the snow line, and exhibit glaciers similar to those of the more western regions of the Alps. Rain is very abundant in the mountainous districts. The climate is generally healthy, except in some of the low and marshy tracts in the south of Hungary.

The productions of the vegetable and animal kingdoms are equally various as the climate. The vegetation of Hungary alone embraces nearly all the plants indigenous to Europe, as well as many not native to its soil, from the Iceland moss, gathered on the Carpathians, to the rice and cotton grown in the plains to the south of the Danube, and the olive-plantations on the hills which border the Adriatic coast. On the sides of the Carpathians, and along the plains and valleys of the upper Save and Drave, are extensive forests of oak and beech, and other trees common to the central regions of Europe (Art. 67). The northern provinces of the empire, and the mountainous regions of Upper Austria and Tyrol, are too cold for the growth of the vine, but in Lower Austria, and throughout Hungary and the southern provinces, this and many other fruits are extensively cultivated. The laurel, the arbutus, the cedar, and other evergreens, are unable to endure the cold winters of the Hungarian plain, but flourish on the seaward slope of the Alps. In the country round Trieste, the fig, the mulberry, and the olive thrive, and the people devote themselves to the rearing of the silkworm.

Among animals, the bear is common among the Carpathian Mountains and the Alps, and in the autumn often visits the forests of the lower countries: wolves are numerous. The lynx, wild cat, and wild boar, are generally distributed, and stags, roebucks, foxes, and hares, are common.

Fish abound in the rivers of Hungary, particularly in the Theiss; and the sturgeon and other fisheries of Lake Balaton are much valued. In the marshy tracts of Hungary, insects are particularly abundant, and swarms of gnats and flies occur (Art. 78). The leeches of southern Hungary, and those of the Neusiedler See, form a considerable article of traffic.

The abundant mineral produce of the empire has been referred to Arts. 55 and 56. Lead and quicksilver are the most important of the metals found within the German provinces of Austria, together with tin (in Bohemia) and iron, the latter of which occurs in greater or less abundance in many parts of the empire.

The lead mines of Bleiberg, in Carinthia (lat. $46^{\circ} 40'$, long. $13^{\circ} 40'$), are among the richest in Europe, and are extensively worked. The quicksilver mine of Idria, to the north-east of Trieste (lat. 46° , long. 14° E.), is only inferior in value to that of Almaden, in the Spanish peninsula, and formerly exceeded it in the amount of its produce.

Both gold and silver occur in the mountainous districts of Hungary and Transylvania, as well as iron, copper, lead, cobalt, and many other mineral productions. The principal mining district lies along the southern declivities of the Carpathian range. The mining works at Schemnitz (lat. $48^{\circ} 26'$, long. $18^{\circ} 50'$), in this region, are on a very extensive scale, and employ many thousands of hands. Gold is worked both at this place and at Kremnitz, further to the northward, and the annual produce exceeds the total gold produce of all the rest of Europe, with the exception of Russia. The salt mines of Galicia are among the most valuable in the world.

In all the mining districts of the empire, wood is almost exclusively used for the purpose of smelting the ores, and is plentifully supplied from the extensive forests, which cover nearly a fourth part of the whole surface of the country.

Mineral springs of every variety are numerous in both the German and Hungarian provinces, and some of them are much frequented by visitors, especially those of *Carlsbad*, *Teplitz*, and *Marienbad*, in Bohemia; *Bad-Gastein*, in Upper Austria; and *Trentschin*, in the north-western part of Hungary.

(276.) *Inhabitants*.—The whole population of the Austrian Empire amounted, in 1857, to upwards of 37,000,000. The transference, in 1859, of Lombardy (the most populous portion of the Austrian dominions) to Sardinia, has diminished this number by nearly three millions.

The most populous portion of the empire is the Italian province: next so, the territories of Silesia, Bohemia, and Moravia. The least populous provinces are those adjacent to the Alps (Salzburg, Tyrol, Styria, and Illyria), with the mountainous territories of Dalmatia and Transylvania.

In Galicia and Hungary, which are chiefly agricultural countries, the villages are usually large, but widely scattered. In the provinces of Bohemia, Moravia, and Silesia, the towns are more numerous, and some of them of considerable size, besides a very abundant population dispersed in villages and hamlets in close proximity to one another, and the people of which are largely engaged in manufacturing pursuits.

Nearly half the population of the Austrian Empire belong to the *Slavonic* race, which embraces the majority of the inhabitants in the provinces of Bohemia, Moravia, Silesia, Illyria, Dalmatia, and the Military Frontier, and includes almost the entire population of Galicia.

The *German* race predominates in Styria and Tyrol, and forms nearly the whole population of Lower and Upper Austria, with Salzburg: the Germans, however, constitute little more than a fifth part of the total population of the empire.

In Hungary and Transylvania, the inhabitants are divided between the *Magyars* and various Slavonic nations; but the former are the dominant race, and embrace (in Hungary) the majority of the people.

The population of Venetia, to the south of the Alps, is wholly *Italian*, and people of this nation are also numerous in the southern part of Tyrol, and the maritime districts of Illyria and Dalmatia. There are about 750,000 *Jews* in the Austrian Empire; they are most numerous in the towns of Galicia, Bohemia, Moravia, and Hungary. *Gipsies*, *Armenians*, and *Greeks*, are scattered over all the eastern provinces of the empire.

The diversity of languages spoken among the people of so many various races is of course great, and the difference between their dispositions, feelings, and interests, not less so. This has always constituted a great source of weakness to the Austrian Empire, and has frequently threatened its dissolution; even at the present time this circumstance places its duration in obvious peril. The Slavonian and Magyar nations are rapidly advancing in intelligence and resources, and are daily becoming less disposed to acquiesce in the yoke of German dominion.

(277.) *Industrial pursuits: Agriculture.* — Wheat, rye, oats, and barley, are grown in the north; the vine and maize chiefly in the central and southern provinces. About a third part of the total extent of the land is estimated to be under tillage. The processes of agriculture are in general very rudely conducted, especially in the Hungarian countries and Galicia; but the surplus of produce in most of the provinces is, notwithstanding, very considerable. In some parts of the Hungarian plain, the soil is of so rich a quality that no manure is required for the choicest crops, and, when not burnt up by excessive drought, the growth of the grass is luxuriant to an extent which almost exceeds belief. The soil of the Banat, and other districts adjacent to the great rivers, consists of a black vegetable mould, peculiarly well adapted to the growth of wheat, abundant crops of which are raised and exported. In fact, Hungary and Galicia are the two principal corn-growing provinces of the empire.

In nearly all the provinces rye forms the principal crop, and is the chief food of the people; next in importance are oats, and then barley and wheat. In Galicia, barley and oats are used in immense quantities for the purpose of distillation, and in the eastern half of the same province wheat of the finest quality is grown, and sent in great quantity, by way of the Vistula, to the port of Dantzic.

The wheat of Bohemia, Moravia, and Lower Austria, is also abundant, and of good quality. Maize forms a frequent crop in Styria, Moravia, and the Tyrol, and is extensively grown throughout the southern provinces.

The district adapted to the growth of the vine is very considerable,

extending from the southern slopes of the hills in Lower Austria and Styria to the north-eastern portions of Hungary. The wines most celebrated for their quality are made in the latter province, in the tract of country adjacent to the town of Tokay, on the Upper Theiss. The cultivation of the mulberry-tree, for silk-worms, has been introduced in the southern parts of Hungary, and a large quantity of silk is produced, but the Italian provinces are the great seat of this branch of industry.

Tobacco is extensively grown in various parts of Hungary. In Bohemia, flax and hemp are grown in considerable abundance, and supply the materials for manufacture; the cultivation of the beet-root, for sugar, is also extensively pursued in that province and Galicia, and hops are largely grown in the former. Both rape and hemp are produced in some quantity in the marshy tracts of Hungary, and poppies (for the making of oil) are much cultivated.

The extent of land in pasture is comparatively small, and cattle are deficient in Bohemia; but in Hungary and Galicia great attention is paid to the rearing of sheep, and those provinces now yield large quantities of wool, especially the district of the Bukowine. In Transylvania and the mountainous parts of Hungary are vast herds of wild cattle, and hides are extensively exported from the former province. In the Alpine provinces, the dairy produce is considerable, and the cattle are of excellent description. In Moravia, the pastures are also extensive, and oxen and horses are annually exported.

(278.) *Manufactures.*—In the Austrian Empire, the various manufactures are not confined to certain districts, but are generally pursued, though on a limited scale, in every part of the country; in some provinces, as in Hungary and Galicia, rather as a domestic occupation than a branch of national industry. Linen is a great article of manufacture, and, in the northern provinces, spinning and weaving form the chief employment of the peasantry during the winter, especially of the women.

Woollen and linen goods, and also hardware, are made in almost every town in the empire, and of late years the cotton manufacture has become very generally diffused. The finest qualities of linen are made in Lower Austria, Moravia, Silesia, and Bohemia, which supply a considerable quantity for the consumption of the adjacent provinces, though little for foreign export. The principal seats of the cotton and woollen manufactures are, Bohemia, Moravia, Silesia, and the province of Austria Proper: in the most western part of Galicia, adjacent to the Silesian province, woollen and cotton mills have also been established within a recent period. In Hungary, wool is made into coarse cloth by the peasantry, for home-consumption; but manufacturing industry is generally deficient in that country, excepting in connection with its numerous mines.

Bohemia is much celebrated for its glass-works, as well as for various branches of mining industry, and forms, with Moravia and Silesia, the most manufacturing portion of the Austrian dominions. Styria, Carinthia, and Carniola, are likewise great seats of mining industry. In

Transylvania, and also in Hungary, some manufacture of leather is carried on. Paper is made to a considerable extent in many of the Austrian provinces, owing to the great abundance and cheapness of linen rags.

Upon the whole, however, Austria is not a manufacturing state, and is obliged to consume large quantities of the manufactured produce of Britain and other countries.

(279.) *Commerce.*—The principal *imports* consist of the manufactured goods of Britain, with those of Saxony, Prussian Silesia, and other parts of Germany; olive-oil, wax, honey, and the various articles of colonial and tropical produce (coffee, tea, sugar, &c.). The *exports* are corn, wine, wool, and timber; with some woollen goods, porcelain and glass, and a variety of mineral produce, including salt to a great extent. The foreign commerce of the empire labours under the disadvantage of its limited sea-coast. Trieste is the great port for the German provinces, Venice for the Italian territory, and Fiume for the Hungarian countries. Along the narrow sea-coast of Dalmatia, however, are numerous good harbours, some of which are rapidly advancing in commercial importance, and will probably in time become the outlets of extensive trade.

(280.) *Internal Communication.*—The Austrian government has paid great attention to the means of communication between its different provinces, and excellent high roads traverse the different parts of the empire. From Pavia, in Italy, an uninterrupted *macadamized* road, more than 1120 miles in length, leads (across mountains and rivers) to Czernewitz, in the Bukowine, at the eastern extremity of Galicia; and similar high roads lead from Vienna to Milan, Trieste, Prague, Buda, and the northern and north-eastern frontiers. The mountain-chains which intervene between the Italian and Adriatic provinces and the rest of the empire, and those which form the frontiers of Hungary and Transylvania, have necessitated the formation of roads across their passes, many of which have been constructed at vast labour and expense. Upwards of sixty mountain-passes have thus been made practicable, and even commodious, for travelling and commercial purposes. The principal of these are the roads which lead from Innsbruck (in the Tyrol) over Mount Stelvio to the plains of Lombardy; from the province of Carinthia, over the Julian Alps, to Trieste; and from Carlstadt (in Austrian Croatia) to Fiume. Similar roads, though at less elevations, lead from Transylvania and Hungary, across the Carpathians, to the plains of Wallachia and Galicia. But, with the exception of these great lines of communication, the roads throughout the empire are very defective, and in many of the provinces cross-roads can hardly be said to exist.

Railways have been extensively constructed, and Vienna is now in direct communication by this mode of transit with Prague, and also with Breslau and all the cities of Northern Germany; besides lines which extend to Presburg, Pesth, and other towns in the Hungarian provinces.

There is also a great line of railway from the capital to Trieste, which effects a continuous communication between those cities, with the exception of a short interruption across the mountain-chain between Lower Austria and Styria.

But the *navigable rivers* are the chief means of carrying on the internal trade of Austria, and the Danube is the great commercial highway of the empire. The total length of river-navigation exceeds 4300 miles, of which nearly half is within the limits of Hungary and Transylvania. *Canals* are not numerous, and are almost confined to the Italian province, and the lower portion of the Hungarian plain.

Agricultural produce of all kinds is conveyed to the capital and the adjacent provinces by means of the Danube and its tributaries; of the latter, the Theiss and Maros are most extensively navigated. The steam-navigation of the Danube extends through the whole length of the empire, and thence to the Black Sea, with the exception of the passage between the towns of Orsova and Gladova (Art. 38), where goods require to be conveyed by a road constructed along the river's banks, and re-embarked below the rapids. Many of the smaller rivers likewise admit of steam-navigation, and steam-boats are established on the principal lakes, as well on the north as on the south side of the Alps. The Elbe is navigable below the junction of the Moldau, and the latter river up to the town of Budweis, whence a railway connects it with Linz, on the Danube.

A large portion of the inland trade of the empire, especially in the Hungarian provinces, is carried on at fairs, annually held for commercial purposes in all the considerable towns, and which are frequented by a vast concourse of people from the adjacent districts, and also from neighbouring countries.

(281.) *National divisions: Towns, &c.*—The various provinces of the Austrian Empire have been already mentioned (Art. 270); these are mostly subdivided into circles. The principal towns in the German provinces, with their populations, are enumerated in the following Table:—

Provinces.	Towns, with population.
Lower Austria - -	Vienna, 473,000 — Neustadt, 12,000 — Bruck — Kloster-neuberg — Krems, 6000.
Upper Austria - -	Linz, 31,000 — Steyer, 10,000 — Gmunden.
Salzburg - - - -	Salzburg, 14,000.
Styria - - - - -	Grätz, 50,000 — Marburg, 5000 — Bruck — Leoben — Eisenerz.
Illyria, —	
Carinthia - - -	Klagenfurt, 14,200 — Villach — Bleiberg.
Carniola - - -	Laybach, 17,000 — Idria, 5000 — Adelsberg.
Coast Region* -	Trieste, 70,000 — Goritz, 10,000 — Rovigno, 10,000 — Pirano, 6200 — Capo d'Istria, 6000 — Pola.
Tyrol - - - - -	Innsbruck, 12,800 — Trent, 13,000 — Botzen, 10,000 — Roveredo, 8000 — Schwaz, 2500 — Hall, 5000 — Brixen, 3600 — Bregenz, 4800 — Feldkirch.

* The Illyrian coast is subdivided into the counties of Goritz and Gradisca,—the Circle of Istria,—and the town and adjacent territory of Trieste.

Provinces.	Towns, with population.
Bohemia - - - -	Prague, 116,000 — Reichenberg, 13,000 — Königgratz, 9000 — Eger, 10,000 — Pilsen, 9000 — Kutteneburg, 7000 — Budweis, 8000 — Chrudim, 6000 — Leitomischel, 6000 — Krumau, 5000 — Joachimsthal, 4000 — Leitmeritz, 4000 — Töplitz, 2600 — Karlsbad, 3000 — Tabor — Marienbad — Peterswald — Kulm.
Moravia - - - -	Brunn, 45,000 — Olmutz, 12,000 — Iglau, 16,000 — Prosnitz, 8000 — Sternberg, 8000 — Neutitschen, 9000 — Nicolsberg, 8000 — Kremsier, 5000 — Austerlitz.
Silesia - - - -	Troppau, 12,000 — Teschen, 6700.

(281. a.) *Vienna* (in German, *Wien*), the capital of the Austrian Empire, is situated to the south of the Danube, upon the immediate banks of an arm of the main stream. The entire city and suburbs are about 14 miles in circuit. The objects of interest are almost all contained within the older and central part of the town : among the principal are the Imperial Palace, an immense pile of building, of irregular form, but many portions of which display great magnificence of architecture, and which contains a library of 313,000 volumes, — the Palace of the Belvedere, which contains a splendid museum of the fine arts, including one of the best collections of paintings in Europe, — the cathedral church of St. Stephen, a vast gothic fabric, — and numerous other churches, some of which possess great beauty. There are fine public walks, parks (two of them situated on an island in the Danube), and various sources of amusement for all classes of the population. Vienna is also the seat of a University, and contains numerous educational and scientific institutions, most of them founded and liberally endowed by its different sovereigns.

Vienna is at once the most manufacturing town in the Austrian Empire, and the great centre of its inland commerce. Its manufactures consist of silk and other stuffs, gold and silver lace, carriages, hardware goods, porcelain, jewels, watches, musical instruments, and paper. Many of these articles are exported by the channel of the Danube, upon which a vast number of boats are employed in connexion with the industrial produce of the city. Vienna is also the centre of the extensive steam-navigation of the Danube, and it was from this city that a steam-boat was first launched on the waters of that river in 1830. Three great fairs are annually held, at which a vast amount of commercial business is transacted.

The climate of Vienna is unhealthy, owing to the moist nature of its situation, and to the prevalence of easterly and northerly winds, blowing from the direction of the Carpathians and the neighbouring mountains, while the higher chains of the Alps, on the south and southwest, in a great degree exclude it from the more genial influences of those quarters of the heavens. Alternations from heat to cold are at all seasons frequent, and sometimes very considerable in amount.

The country immediately around Vienna is dreary and devoid of interest, but its more distant environs exhibit beautiful scenery and possess many attractions. At a short distance from the city is the royal palace of *Schönbrunn*, distinguished for the magnificence of its gardens. Opposite to Vienna, on the north bank of the Danube, are the villages of *Aspern* and *Essling*, and, a short distance off, *Wagram*, all the scenes of great victories gained by the French during the campaigns of Napoleon.

None of the other towns in Lower Austria are of prominent import-

ance. At *Durrenstein*, on the north bank of the Danube (42 miles w. n. w. of Vienna), is the ancient castle in which King Richard I. of England was detained a prisoner on his return from the Holy Land.

Linz, the principal city of Upper Austria, on the south bank of the Danube, has considerable cloth-works and other manufactures, and great trade. *Salzburg*, 70 miles w. s. w. of Linz, is a well-built city on both banks of the river Salza or Salzach, an affluent of the Inn, in the midst of a mountainous and highly picturesque district, and was formerly the seat of a sovereign archbishopric. It has some manufactures, scientific institutions, and two public libraries. About 50 miles s. of Salzburg, on the highest pinnacle of one of the chains of the Alps which intervenes between the valleys of the Salza and the Drave, are situated the celebrated springs and watering-place of *Bad-Gastein*, at an elevation of 3000 feet above the level of the sea.

Grätz, the capital of Styria, is situated on the banks of the river Mur, a considerable affluent of the Drave, about 90 miles to the s. of Vienna. It has numerous manufactures, both of textile fabrics and hardware goods, and is one of the most considerable places of inland trade in the empire, possessing a large share in the transit trade between Trieste and Vienna. It is the seat of a University, and possesses an institution called the *Johanneum* (from the name of its founder, the Archduke John), which contains a magnificent museum and the various appurtenances of a great educational establishment.

Klagenfurt, the principal city of Carinthia, is situated on a small affluent of the Drave, and possesses a few manufactures, with considerable transit trade. About 30 miles to the westward is the village of *Bleiberg*, celebrated for its lead mines (Art. 274.).

Laybach, in Carniola, is the capital of the Illyrian provinces, and has a great transit trade, besides some manufactures of silk and porcelain. It is situated in the valley of the Save, a few miles to the south of that river, and in the midst of a remarkable and interesting district. About 25 miles to the westward are the quicksilver mines of *Idria*, and about the same distance to the south-west the magnificent caverns of *Adelsberg*, which extend for several miles underground. The limestone rock of which the Illyrian Alps are composed contains many cavernous hollows, and gives rise to numerous subterranean streams. The waters of *Lake Zirknitz* (some miles to the east of *Adelsberg*, and south of *Laybach*) vary greatly in extent, presenting a continual flux and reflux, and sometimes entirely disappear, leaving its bed perfectly dry, but after a lapse of time again return from the under-ground channels into which they had been received.

Trieste, on the coast of Illyria, and near the head of the Adriatic Sea, is the great seat of the foreign commerce of Austria, and one of the most important sea-ports in the Mediterranean. Ship-building is here carried on to a great extent, and there are factories of various kinds, besides soap-works, rope-walks, and sugar-refineries. Trieste has no natural harbour, but a canal enables vessels of considerable tonnage to penetrate within the heart of the town; and a huge mole, constructed of regular masonry, serves as a protection to shipping. To the south of Trieste, on the shores of the peninsula of *Istria*, are several small commercial ports, among which *Pola*, near its southern extremity, is distinguished for the

excellence of its harbour, and is intended to be made the chief station of the Austrian navy : but its situation is unhealthy.

Innsbruck, the capital of the Tyrol, stands on the banks of the river Inn, the valley of which is here bordered on either side by mountains from 6000 to 7000 feet high. It has manufactures of silk, woollen, and cotton fabrics, besides leather and glass ; and is the seat of considerable trade between Italy and the countries to the north of the Alps. *Innsbruck* possesses a University, a fine museum, and several other literary and scientific establishments. *Trent*, a small city on the Adige, and lying on one of the principal lines of road into the Italian provinces, has some manufactures of silk, but is chiefly celebrated as the scene of the great ecclesiastical council, held in the middle of the 16th century. The upper parts of the valleys of the Eisack (the chief arm of the river Adige) and the Drave form a district called the *Pusther-thal*, distinguished for the industry of its peasantry, who weave fine carpets.

Prague, the capital of Bohemia, and, next to Vienna, the most important city in the German provinces of the empire, is a large and well-built town on both banks of the Moldau. It is the chief seat of the manufacturing industry of the province, and a place of great trade. It possesses a University, besides several institutions for the promotion of science and literature, and is a place of great historical celebrity.

In the same province, the town of *Reichenberg*, on the river Neisse (a tributary of the Oder), near the frontier of Prussia, has considerable manufactures of cotton and woollen cloth. *Budweis*, on the Moldau, is a flourishing commercial city, with important cloth manufactures. *Carlsbad*, 72 miles w. by n. of Prague, in the valley of the Eger, a tributary of the Elbe, is celebrated for its baths, and also for its steel and iron works.

Brunn, the capital of Moravia, at the junction of two small tributaries of the Morava, is distinguished as a great seat of the woollen manufacture, as well as for its dyeing, and its silk, soap, glass, tobacco, and cotton-works. Fourteen miles to the eastward is the village of *Austerlitz*, the scene of one of Napoleon's victories, in 1805. *Olmütz*, on the March or Morava, formerly the capital of the province, is a fortified city of considerable importance, and the seat of a University. *Troppau*, the principal place in Austrian Silesia, on a small tributary of the Oder, is noted for its manufactures of cloth and arms.

(282.) *Galicia*.—The principal towns in the province of Galicia are Lemberg, 70,000 inhabitants ; — Brody, 18,000 ; — Drochobicz, 7000 ; — Czernowicz, 10,000 ; Tarnopol, 17,000 ; — and Tarnow, 16,000.

Lemberg, the capital of the province, is a place of considerable trade, and the seat of a University. A third part of its population are Jews, who are numerous throughout Galicia, and carry on the greater part of the trade. *Brody*, near the frontier of Russia, has great trade with that country and with Turkey. *Czernowicz*, on the river Pruth, is the chief place in the district of the Bukowine (Art. 272.).

Cracow, situated on the left bank of the Vistula (200 miles n. e. of Vienna), is an ancient Polish city, which, with a small adjacent territory, was constituted a free state by the Congress of Vienna, in 1816 ; but it has recently been absorbed into the Austrian Empire. Cracow has a population of 43,000. It possesses a University, and is celebrated for

its magnificent cathedral, which contains the tombs of the great men of Poland. To the s. e. of Cracow are *Wielicza* and *Bochnia*, noted for their valuable salt-mines.*

(283.) *Hungary, &c.*—The principal towns in the Hungarian provinces, with their populations, are stated in the following Table :—

Provinces.	Towns, with population.
Hungary - - - -	Pesth (with Buda), 100,000—Debreczin, 63,000—Presburg, 40,000—Theresianopol, 40,000—Keszket, 40,000—Szegedin, 36,000—Miskolcz, 30,000—Schemnitz, 18,000—Zombor, 21,000—Gross-Wardein, 19,000—Koinorn, 17,000—Neusatz, 17,000—Werschitz, 18,000—Temeswar, 19,000—Raab, 18,000—Oedenberg, 15,000—Kardazag, 11,000—Kremnitz, 6000—Neusohl, 12,000—Veszprim, 10,000—Mohacs, 10,000—Kaschau, 13,000—Funfkirchen, 14,000—Eperies, 9000—Szigeth, 7000—Tokay, 5000.
Transylvania - -	Kronstadt, 28,000—Klausenburg, 25,000—Hermanstadt, 21,000—Maros-Vasarhely, 10,000—Karlsburg, 12,000—Bistritz, 6000.
Slavonia - - - -	Peterwaradein, 14,000—Ezek, 12,000—Karlowitz, 6000—Semlin, 10,000.
Croatia - - - -	Agram, 15,000—Karlstadt, 6000—Warasdin, 9000—Flume, 11,000.
Dalmatia - - - -	Zara, 7000—Spalatro, 10,000—Ragusa, 6000—Cattaro, 4000.

(284.) *Buda* (or, in German, *Ofen*) is an ancient town, situated on the right or western bank of the Danube, and is noted for its mineral waters. It communicates by a handsome suspension-bridge (recently constructed by an English engineer) with the larger city of *Pesth*, on the opposite bank of the river, and the two together form the capital of Hungary. *Pesth* is a clean, well-built town, and the seat of a University. It is the centre of the inland trade of Hungary, and has four great annual fairs, at which an immense concourse of people assemble for commercial purposes.

Presburg, on the n. bank of the Danube, 35 miles below Vienna, was the ancient capital of Hungary, and the seat of its legislative assembly, or diet. It is a decayed town, less populous than formerly, but contains an Academy, or minor University, and other public institutions.

About midway between *Presburg* and *Buda*, on the north bank of the Danube, at the confluence of the *Waag*, is *Komorn*, a strong and almost impregnable fortress, and also a place of considerable trade.

Mohacs, on the right bank of the Danube, below *Pesth*, is an important commercial town, carrying on an active trade by means of the river. Two famous battles were fought in its neighbourhood, in 1526 and 1680, between the Turkish and Christian arms.

Debreczin, 120 miles to the e. of *Pesth*, is one of the most manufac-

* The salt-mines of *Wielicza* have been worked ever since the sixteenth century; they furnish annually 150,000 hundredweight of salt. The workings in these mines consist of three stories, each of which corresponds to a bed or stratum of salt, and the lowest of which is at a depth of 740 feet. Within the mines are three chapels, excavated out of the solid salt, and with the pulpit, crucifix, and various statues, all of the same material. On occasion of these mines being visited by persons of distinction, the chapels, galleries, and vaulted roofs, are illuminated by innumerable torches, the light from which, reflected in a thousand directions, gives them a splendid and almost magical appearance.

turing and commercial places in Hungary, but is rather an immense village than a town ; its streets are unpaved, and its houses in general only one story high. Coarse cloth, leather, boots, pottery, and soap, are among its chief articles of manufacture, and at its four annual fairs the people of the adjacent districts exchange their productions for the finer articles of Vienna, and the foreign produce supplied through its medium.

Schemnitz, *Kremnitz*, and *Neusohl*, all situated to the north of Pesth, are in the heart of the mining district of the Carpathians, and have extensive works in metal. *Schemnitz* has rich mines of gold and silver, and a school of mineralogy : *Neusohl* is noted for its copper works. *Schmolnitz* and *Rosenau*, both situated in the mountains further to the eastward, are also great seats of mining industry. *Szegedin*, a large town on the banks of the Theiss, in the centre of the great Hungarian plain, has some manufactures of tobacco, soap, and cloth, and considerable trade. *Temeswar*, the principal place in the province of the Banat, is a strong fortress, but unhealthy, from its situation in the midst of a marshy district.

(285.) *Kronstadt*, in the s.e. corner of Transylvania, near the Turkish frontier, is the most industrious manufacturing and commercial town in the province. There are numerous dyers, feltmongers, tanners, and millers ; and coarse woollen cloths, stockings, skins, and articles in leather, are produced in great abundance and many of them supplied to the peasantry of Wallachia and Moldavia, between which countries and the eastern parts of the empire a considerable transit trade is carried on.

Klausenburg (on the river Szamos, a tributary of the Theiss), a small town near the centre of the province, is the seat of the general government of Transylvania. *Hermanstadt*, in the south of the province, is within the Transylvanian portion of the Military Frontier, and was formerly a place of some trade, but has declined in importance : north-west of it is *Karlsburg*, on the Maros, which has a fine cathedral, and in the neighbourhood of which are some gold-mines.

Peterwaradein, on the s. bank of the Danube, and 170 miles s. by e. of Buda, is a strongly fortified place. On the south side of the Drave, a few miles above its junction with the Danube, is *Eszek*, a place of considerable commercial importance, and strongly fortified.

Agram, near the north bank of the Save, is the residence of the Ban, or Viceroy, of Croatia, and is a place of some trade. *Karlstadt*, 25 miles to the s. w. (on the Kulpa, an affluent of the Save), lies on the great line of road across the mountains to Fiume, and has some transit trade : a liqueur called *rosoglio* is extensively made here. *Fiume*, on the Adriatic coast, at the head of the Gulf of Quarnero, is the chief port of the Hungarian provinces, and possesses a good harbour. It has some manufactures of tobacco, paper, and *rosoglio*, and exports corn and other native produce, but its trade is not considerable.

Zara, *Spalatro*, *Ragusa*, and *Cattaro*, all situated on the coast of Dalmatia, and *Curzola* (on one of the islands of the Dalmatian archipelago), are busy commercial towns, the inhabitants of which carry on an active coasting-trade. *Zara* is the seat of government for the province. In the immediate neighbourhood of *Spalatro* are the extensive ruins of the

palace which formed the residence of the Roman Emperor Diocletian, after his abdication.

(286.) The government of Austria is an hereditary and almost absolute monarchy, in which the chief legislative as well as executive power is in the hands of the Emperor. Hungary and Transylvania had always possessed institutions different from the other provinces, and their government was regulated by the proceedings of a diet assembled at Presburg. But the interference of the Imperial government with the guaranteed privileges of the Hungarian nation led to a gallant though unsuccessful struggle for independence on the part of Hungary, in 1849, and the failure of this effort has resulted in the further curtailment of the liberties which its people had previously enjoyed. In all the provinces of the empire, the classes of nobles, citizens (or inhabitants of the towns), and peasants, are strictly defined, and the nobles are generally numerous.

The prevalent religion is the Roman Catholic, which is professed by nearly three-fourths of the population. Next to it in numbers is the Greek Church, the followers of which are most numerous in Transylvania, Southern Hungary, Sclavonia, Croatia, and Galicia. Members of the Protestant Churches are found chiefly in Hungary and Transylvania.

Education is not generally in an advanced condition in Austria, though more so in the German and Italian provinces than in other parts of the empire. There is throughout an extensive system of primary or elementary schools, under the direction of the government, but the instruction imparted is frequently deficient. The inhabitants of the Italian province, and of Lower Austria, are those among whom education is most generally diffused. There are eight Universities ;—those of Prague, Vienna, Grätz, Olmutz, and Innsbruck, in the German provinces of the empire ;—Pesth, in Hungary ;—Lemberg, in Galicia ;—with Padua, in the Italian province. Between these and the elementary schools are gymnasia, or high schools, established in most of the principal towns.

The military resources of Austria are considerable, and a very large standing army is maintained. Military science is highly esteemed, and there are various institutions for the purpose of its cultivation at Vienna and the other principal towns of the empire. The people of the southern Hungarian provinces lead a semi-military life, and are almost constantly under arms ; but their various national antipathies are a source of disunion and weakness to the general government. The navy is small, and of modern date, but the inhabitants of the Adriatic coasts and islands are enterprising ship-builders and mariners, and much addicted to nautical pursuits.

SECTION III. — PRUSSIA.

(287.) *Boundaries and extent.*—Prussia is bounded on the north by the Baltic Sea, Mecklenburg, and Hanover,—on the west by Holland and Belgium,—on the south by France, various small German States, Saxony, and the Austrian Empire,—and on the east by Russia and the so-

called Kingdom of Poland. From east to west it comprises 17° of longitude, or more than seven hundred miles: its greatest extent from north to south (on the line of the 18th meridian) is about three hundred and fifty miles. The total area of Prussia is 107,960 English square miles, of which about two-thirds are in Germany.

The shape of Prussia is exceedingly irregular, and a considerable part of its territory, extending on both banks of the river Rhine, is entirely detached from the rest of the kingdom.

The sea-coast of Prussia is of limited extent, and is almost entirely confined to the Baltic. It was, indeed, wholly so, until the recent acquisition (by purchase from the state of Oldenburg) of a small territory adjacent to the shores of the Jahde, on the coast of the North Sea. The Jahde is a gulf of the North Sea, situated about midway between the Dutch frontier (at the similar gulf of the Dollart) and the mouth of the Elbe, and immediately to the west of the mouth of the river Weser. A new and fortified port is in process of construction here by Prussia.

(288.) *Surface, Rivers, &c.*—The southern portions of Prussia are in part covered by the mountains of the German or Hercynian system,—the central, northern, and eastern portions belong to the region of the great plain.

The principal rivers are the *Niemen*, the *Vistula*, the *Oder*, the *Elbe*, and the *Rhine* (Arts. 36. and 40.). Almost the entire course of the Oder lies within Prussia, but only portions of the others are contained within its limits. The Niemen, the Vistula, and the Oder, all form at their mouths considerable fresh-water estuaries, called *haffs*, which are connected with the sea by narrow entrances. The *Curische Haff*, at the mouth of the Memel, and the *Frische Haff*, which forms the entrance to the eastern branches of the Vistula, are each divided from the sea by a long and narrow tongue of sand; a small river called the Pregel flows into the north-eastern extremity of the Frische Haff. The *Stettiner Haff*, at the entrance of the Oder, is protected by the two islands of Usedom and Wollin, between which and the mainland on either side are three narrow channels or straits.

A great number of lakes occur in the plain to the south of the Baltic, some of which are from ten to twelve miles in length; many of them have been contracted in size by artificial embankments, and the recovered soil appropriated to the purposes of agriculture.

(289.) *Climate, Productions, &c.* — The climate of Prussia is generally temperate and healthy, but on the borders of the Baltic the winters are severely cold, and the weather changeable, raw, and foggy. In the neighbourhood of the numerous lakes, the abundant exhalations render the air damp and unwholesome, while on some of the sandy plains the heat of summer is oppressive. The central and western provinces have a milder and less variable climate. In the south, as the country rises towards the mountains, the air again becomes colder, but more salubrious.

Forests cover a large portion of the country, and in the northern provinces alternate with marshy districts, and tracts covered with heath. The forest-trees are those belonging to central Europe in general (Art. 67.); pines and firs become more common in the sandy plains watered by the Elbe and the Oder.

The woods abound with wild animals, among which are deer of various kinds, wild boars, and great numbers of foxes. The former of these afford much employment in the chase, and hunting is a favourite pursuit with the upper and middle classes of the people. A small kind of field-mouse, which belongs to the tribe of hamsters, is exceedingly numerous, and does immense mischief to the productions of the vegetable kingdom. Wild birds are also very numerous; the most abundant among them are geese, bustards, grouse, blackcocks, wild ducks, woodcocks, &c. The rivers and lakes supply abundance of fish.

The mineral produce has been already noticed (Art. 56.), but the mines are not worked to the extent of which they are capable. Almost throughout Germany the soil is rich in the varieties of earth used in the different branches of the pottery and porcelain manufactures. *Amber* is a peculiar production of Prussia (Art. 62.); great part of it is exported to Turkey, where it is largely used for the mouth-pieces of pipes and for various ornamental purposes, to which also it is applied in Prussia and other parts of Germany.

(290.) *Inhabitants.* — The population of the Kingdom of Prussia amounted, in 1858, to 17,700,000, — an average of 164 inhabitants to the square mile. The most populous portions are Silesia and the province on the Rhine, and next so, Westphalia; the least populous provinces are those which extend along the Baltic, — Pomerania and Prussia proper.

The greater part of the people of Prussia are Germans; but in Posen, Prussia, and the eastern part of Silesia, the inhabitants are chiefly of Slavonic origin, and speak various dialects of the Slavonic language.* Jews are numerous in

* Silesia was not originally German, but became in great measure so by the introduction of German colonists in the twelfth century. All its arts and industry, however, belong solely to the German portion of its population.

the towns throughout the kingdom, and especially so in the province of Posen.

(291.) *Industrial pursuits: Agriculture.*—The cultivation of the soil is the employment of three-fourths of the inhabitants of Prussia, and many tracts naturally barren and unproductive have been rendered capable of supplying not only the wants of the population, but of leaving a considerable surplus for export. The principal grains produced are wheat, rye, oats, and barley; but *rye* far exceeds any other in quantity, and forms the principal food of the people. Peas, beans, and buckwheat, are also raised. The cultivation of the potato has greatly extended of late years, and this vegetable forms the chief food of many of the labouring population. Agriculture is pursued in a very imperfect manner in some of the provinces, especially in Posen and Prussia, where, notwithstanding, a great abundance of corn is raised, and large quantities exported.

Flax is much grown throughout the country, especially in the province of Silesia, in which also *madder* and *woad* are extensively cultivated. Tobacco and hops are grown to a limited extent, and chicory is largely cultivated in some districts. Great quantities of beet-root are grown for the purpose of making sugar.

The *vine* is grown in the provinces on the Rhine, and wine of excellent quality is produced there: in the central and south-eastern provinces it is of inferior strength and flavour. In Silesia silk is produced to a small extent; in Brandenburg the silkworm thrives well, and the quantity of *silk* obtained is considerable, though not enough for the supply of the manufacturer.

Sheep are numerously reared, especially in the province of Silesia, and supply great part of the wool required for manufacturing purposes: some foreign wool is imported, but a greater quantity of native growth is exported. The quality of the wool yielded by the native German sheep is not good, but has been improved by the introduction of the fine-woolled merino breed of Spain, and merinos of pure breed are now very numerous. The breeding of swine is a considerable employment, particularly in the provinces of Westphalia and Pomerania; and the hams, bacon, and sausages, made from them, form great part of the animal food of the people. Cattle are most abundant in the north-eastern provinces, but are not numerous compared with the extent of land. Indeed the proportion of land allotted to pasture is generally deficient throughout the kingdom, owing to the great extent covered with forests.

The rearing of bees is extensively pursued in many parts, and much honey and wax produced, some of which is exported.

(292.) *Manufactures.*—The most considerable manufactures are those of linen and woollen goods, especially the

former. Silesia, and the province on the Rhine, are the most manufacturing portions of the kingdom.

Fine linens are made chiefly in Silesia, and the coarser kinds in Westphalia. Woollen goods are extensively made in Brandenburg, and woollen cloths and metal works in the Rhenish province, in which latter, indeed, every branch of manufacturing industry is carried on. Metal-works are also pursued to a considerable extent in parts of Westphalia, Saxony, Silesia, and other provinces.

The cotton-manufacture has increased of late years, and a large quantity of cotton-twist is imported from Great Britain, besides what is spun in the country; the towns of *Aachen*, *Cologne*, *Elberfeld*, and *Berlin*, are its chief seats. *Elberfeld* (to the east of the Rhine, lat. $51^{\circ} 16'$, long. $7^{\circ} 12'$) is particularly celebrated for the excellence of its red dyes.

The making of silk goods is carried on at *Berlin*, *Cologne*, *Elberfeld*, and other places, and has recently made rapid progress. The iron and other metal manufactures are more than sufficient to supply the home consumption.

Until of late years, the manufactures of Prussia and other parts of Germany were chiefly domestic, and were only carried on upon a small scale; but large establishments now exist in the towns above mentioned, as well as in many other places, and besides supplying the home consumption the manufacturers of Prussia export great quantities of goods to Russia, Poland, and other European countries. Prussia is, in fact, entering largely into the great field of manufacturing and commercial competition.

Besides the above-named articles, the various manufactures of paper, leather, tobacco, snuff, sugar, soap and candles, earthenware, porcelain, &c., are extensively carried on throughout the kingdom. Berlin is celebrated for its glass and porcelain, and also for its ornamental iron-works. Here, and in the other large cities, the engravers, goldsmiths, jewellers, watchmakers, and other ornamental artificers, are numerous and skilful.

The establishments for brewing and distilling spirits are numerous throughout the kingdom, and beer is largely consumed by the people.

(293.) *Commerce*.—The principal articles of *import* are sugar, tea, coffee, spices, and other colonial produce; gold, mercury, tin; French and Hungarian wines, raw cotton and cotton-twist, silk, and leaf-tobacco. The principal *exports* are corn, timber, wool, linen and woollen manufactures, and linen yarn; iron, copper, and brass work; zinc, glass and porcelain, tobacco, salt meat (including Westphalia hams), wax, Prussian blue, amber, &c.

The foreign commerce of Prussia is checked by the limited extent of her sea-coast, and the greater part of it is carried on by ships belonging to other nations, of which the British are most numerous. The commerce by land, and by inland navigation, is principally with Austria

and Russia. From *Austria*, the Prussians receive salt and wine, and send linen-yarn in exchange; from *Russia* they import hemp, tallow, hides, and other raw produce, and send linen and woollen cloths in return. The provinces on the Rhine carry on very considerable traffic in wine and manufactured goods with Belgium, Holland, and the neighbouring German states.

The internal trade of Prussia has been largely promoted by the formation of a Commercial League with the other German States, for some notice of which see Art. 309.

(294.) *Internal communication*.—The roads in Prussia, and also in other parts of Germany, are not generally good, but have been of late years greatly improved in the neighbourhood of the principal towns. In the remoter districts they are still very bad, and little suited for carriages.

Railways now extend through almost every part of Prussia, and form a communication between all the great cities of the kingdom, as well as with the principal towns of other portions of Germany. Berlin, the capital, is connected with Dresden, Breslau, Königsberg, Dantzic, Stettin, Hamburg, Hanover, Cologne, Aachen, and Liége (in Belgium), and an uninterrupted railway communication is formed from Ostend, on the shores of the North Sea, to the most eastern extremity of Silesia, and thence to Cracow and Warsaw.

Canals are not numerous; the principal are those which connect the tributaries of the Elbe and the Oder, in the neighbourhood of the capital. But the rivers are largely used for the purpose of inland navigation, and immense quantities of corn are brought down the Vistula, from Poland and the provinces of Austria and Russia adjacent to its course, or watered by its tributaries.

(295). *National divisions*.—Prussia consists of 8 provinces, which are divided into 25 governments, and these again into circles. Of the provinces, Westphalia and the Rhenish province constitute the *western* and detached portion of the kingdom: Prussian Saxony, Brandenburg, Pomerania, and Silesia, form the *central* and larger part of its territory; Posen and Prussia proper lie beyond the limits of Germany, and extend along its *eastern* borders.

The principal towns in each province, with their populations, are stated in the subjoined Table:—

IN GERMANY.

Provinces.	Towns, with Population.
Rhenish Province -	Cologne, 106,000—Aachen, 50,000—Barmen, 41,000—Elberfeld, 41,000—Dusseldorf, 26,000—Crefeld, 45,000—Coblenz, 23,000—Treves, 19,000—Bonn, 14,000—Wesel, 12,000—Kreuznach, 9000—Neuss, 9000—Mulheim, 10,000—Cleves, 8000—Saarbrück, 9000—Duisburg, 8000—Emmerich, 7000—Neuwied, 7000.
Westphalia - -	Munster, 24,000—Iserlohn, 10,000—Minden, 12,000—Soest, 9000—Paderborn, 9000—Herford, 8000—Dortmund, 7000—Bielefeld, 5800—Arnsberg, 4000.

Provinces.	Towns, with population.
Saxony - - - -	Magdeburg, 56,000 — Halle, 33,000 — Erfurt, 31,000 — Halberstadt, 19,000 — Burg, 14,000 — Quedlinburg, 14,000 — Naumburg, 13,000 — Muhlhausen, 13,000 — Nordhausen, 13,000 — Aschersleben, 10,000 — Zeitz, 12,000 — Merseburg, 11,000 — Wittenberg, 9000 — Weissenfels, 9000 — Eilenburg, 8000 — Eisleben, 8000 — Suhl, 7100 — Salzwedel, 7000 — Schönebeck, 8000 — Torgau, 9000.
Brandenburg - -	Berlin, 455,000 — Potsdam, 40,000 — Frankfort-on-the-Oder, 30,000 — Brandenburg, 17,600 — Prenslau, 12,000 — Landsberg, 12,000 — Guben, 11,000 — Kotbus, 8000 — Kustrin, 8000.
Pomerania - - -	Stettin, 47,000 — Stralsund, 19,000 — Stargard, 13,000 — Greifswald, 12,000 — Kolberg, 9700 — Anklam, 7000 — Koslin, 8700 — Swinemünde, 3600.
Silesia - - - -	Breslau, 112,000 — Gorlitz, 18,000 — Gross Glogau, 15,000 — Liegnitz, 14,000 — Brieg, 12,000 — Nelsse, 17,000 — Grunberg, 10,000 — Schweidnitz, 13,000 — Goldberg, 7000 — Hirschberg, 7000 — Glatz, 10,000 — Oppeln, 7700 — Ratibor, 8000.

BEYOND THE LIMITS OF GERMANY.

Posen - - - -	Posen, 45,000 — Lissa, 10,000 — Rawitsch, 10,000 — Bromberg, 11,000 — Gnesen, 7000.
Prussia proper - -	Königsberg, 75,000 — Dantzic, 66,000 — Elbing, 22,000 — Tilsit, 13,800 — Thorn, 12,000 — Memel, 10,000 — Insterburg, 10,000 — Braunsberg, 8000 — Gumbinnen, 7000 — Marienburg, 7000.

(296.) *Berlin*, the metropolis of the kingdom, is situated on the Spree (a small river which flows into the Havel, a tributary of the Elbe), in the midst of a flat and sandy plain. The Spree intersects the city, insulating one of its quarters, and is crossed by more than 40 bridges, chiefly of stone: it is navigable for barges, and is connected by canals both with the Oder and the Elbe. Berlin is, on the whole, a handsome city, and some portions of it rival in architectural magnificence any of the European capitals. The principal street (upwards of a mile in length) is divided into five avenues by rows of lime, chestnut, and other trees, and is lined on either side by splendid palaces and public buildings. The whole of the city and suburbs are enclosed by a wall.

The royal library of Berlin contains more than 400,000 volumes: the museum is much celebrated for its collection of vases and works of art; and the University enjoys a high reputation, and is attended by numerous students. Berlin forms the literary capital of Northern Germany, and is the residence of many persons of eminence in various branches of science, and of a great number of individuals professionally devoted to the pursuit of literature.

The manufactures of Berlin include a great variety of articles, of which woollen, silk, and cotton goods, with porcelain and cast-iron works, are the most important. For the last, especially, which comprise a great variety of both useful and ornamental articles, the artizans of this city are particularly celebrated. In Berlin, as in all parts of Germany, the custom of smoking prevails among all classes, and music forms a general source of recreation.

The town of *Potsdam*, 18 miles to the s. w. of Berlin, on the banks of the Havel, contains the palace of Sans Souci, the most frequent residence of the sovereign, and is a great station for the Prussian army.

Frankfort-on-the-Oder (chiefly on the left bank of that river), 50 miles E. by S. of Berlin, is an industrious manufacturing and commercial city, and is the seat of three great annual fairs, which are attended by

numerous merchants and dealers from foreign countries, as well as from all parts of Germany. In the neighbourhood of Frankfort are Zorndorf and Kunersdorff—both included among the many battle-fields of Frederick the Great during the Seven Years' War (the former in 1758, the latter in the following year).

Breslau, on the Oder, 190 miles s. e. of Berlin, is the capital of Silesia, and the second city in the kingdom in population and importance. It has extensive manufactures, is the centre of considerable commerce, and possesses a University. The village of Leuthen, a few miles n. w. of Breslau, was the scene of a victory gained by Frederick the Great over the Austrians, in 1757.

Posen, a large commercial city, and the capital of the province of that name, is situated on the Warta, a tributary of the Oder. It has a great trade in agricultural produce.

Dantzic, situated on the western branch of the Vistula, near its mouth, is the most important station in the kingdom for foreign commerce, and is one of the greatest corn-shipping ports in the world. It has a great number of distilleries and breweries, the latter of which produce a kind of black beer in very general request; besides large establishments for grinding flour, with dye-works, sugar-refineries, manufactories of fire-arms, &c. It is an ancient and badly built city, strongly fortified. *Elbing*, upon a small river of that name which flows into the Frische Haff (to the e. of the mouth of the Vistula), is a considerable commercial town. *Thorn*, on the right bank of the Vistula, near the Russian frontier, was the birth-place of Copernicus.

Königsberg, to the n. e. of Dantzic, at the mouth of the river Pregel, is the capital of Prussia Proper, and has considerable trade. It is the seat of a University. *Memel*, at the entrance of the Curische Haff, near the north-eastern extremity of the kingdom, is a flourishing port.

Stettin, the capital of Pomerania, is a fortified town on the Oder, above the estuary which forms the entrance to that river (Art. 288). It has considerable commerce, and is one of the principal sea-ports in the kingdom. *Stralsund*, on the strait which lies between the island of Rugen and the mainland, is a commercial town of some importance.

Magdeburg (the capital of Prussian Saxony), on the left bank of the Elbe, 75 miles w. s. w. of Berlin, is one of the strongest fortresses in Europe, and the chief citadel of the Prussian kingdom. It is an industrious commercial town, and has considerable manufactures.—*Halle*, situated on the Saale (a tributary of the Elbe), 88 miles s. w. of Berlin, is a busy commercial town, and is also the seat of a University. It is particularly noted for the activity of its printing-presses. *Merseburg*, also on the Saale, is a few miles s. of Halle. Rossbach and Lutzen, both small places in this locality, possess historical interest—the former as one of the great Frederick's battle-fields (A.D. 1757); the latter as the scene of an earlier conflict (A.D. 1632), in which the Swedish hero, Gustavus Adolphus, fell in the moment of victory over the Austrians. Lutzen also witnessed a fiercely-contested victory gained by Napoleon, in 1813, over the allied armies of Russia and Prussia. The town of *Eisleben*, 20 miles to the w. of Halle, is distinguished as the birth-place of the great reformer, Martin Luther.

Munster, the capital of Westphalia, situated at a short distance from the river Ems, is a busy commercial town. *Minden*, on the left bank of the Weser, is noted historically for a victory gained by the Prussian forces over the French, in 1759. *Iserlohn*, 42 miles to the southward, in the same province, is rendered important by its hardware manufactures, and its rich mines of calamine (zinc) at a short distance.

Cologne (in German, *Köln*), on the left bank of the Rhine, is the third city in importance in the kingdom, and is a great seat of manufacturing industry. It is also the entrepôt of a considerable commerce between Belgium, Holland, and the neighbouring parts of Germany. The liquid which bears its name (*eau de Cologne*) is made and exported hence in very large quantities. Cologne is a badly built and dirty town, consisting chiefly of narrow and irregular streets and lanes; but its cathedral is one of the most magnificent specimens of Gothic architecture in Europe. *Bonn*, 13 miles to the s. of Cologne and also on the left bank of the Rhine, is the seat of a University.

Dusseldorf, on the right bank of the Rhine, below Cologne, serves as the shipping port for a great number of manufacturing towns situated within its district, the most important of which are the adjoining towns of *Elberfeld* and *Barmen*, about 15 miles to the eastward. Besides these are *Crefeld*, *Duisburg*, *Cleves*, and many other places, all the seats of an industrious manufacturing and trading population. Below Dusseldorf are *Wesel* and *Emmerich*, both on the right bank of the Rhine.

Coblentz, at the junction of the Moselle with the Rhine, is surrounded by fortifications, and on the opposite bank of the Rhine is the strong fortress of *Ehrenbreitstein*, occupying the summit of a hill. *Treves*, on the banks of the Moselle, 63 miles above Coblentz, is an ancient and celebrated city, formerly the seat of a sovereign archbishopric. The valley of the Moselle is here a beautiful and fertile district, thickly planted with vineyards.

Aachen (French, *Aix-la-Chapelle*), 40 miles to the west of Cologne, and near the frontier of Belgium, has important manufactures of woollen cloths and cotton, and is noted for the excellence of its needles: watch-making, jewellery, and other branches of industry, are extensively carried on. *Aix-la-Chapelle* is also resorted to for its mineral waters, which are of sulphureous quality, and of high temperature (143° Fahr.). The surrounding tract of country contains numerous small towns, distinguished for their manufacturing industry, and several of which have extensive metal-works. Among these are *Eupen*, *Malmedy*, *Durren*, *Julich*, and many others.

The principal *sea-ports* of Prussia are *Dantzic*, *Königsberg*, *Elbing*, *Memel*, *Stettin*, *Stralsund*, *Kolberg* (adjacent to the shores of the Baltic, N. E. of Stettin), and *Swinemünde*, which latter is situated on the island of Usedom, at the entrance to the Stettiner Haff. The chief commercial towns in the interior are *Berlin*, *Elberfeld*, *Cologne*, *Breslau*, and *Frankfort-on-the-Oder*.

(297.) The government of Prussia is an hereditary monarchy, almost absolute in power, though some progress has of late been made towards the attainment of freer political institutions. Both the legislative and executive powers are vested in the king.

The prevailing religion is the Protestant, in various forms, to which about three-fifths of the inhabitants of Prussia belong; the remaining two-fifths are chiefly members of the Roman Catholic Church, but there are also numerous Jews. The Protestant population predominates in the provinces of Brandenburg, Pomerania, and Saxony,—the Roman Catholic in the Rhenish province, Westphalia, and Posen. The other provinces are nearly equally divided in this respect.

Public instruction is in a highly advanced state in Prussia, more so, upon the whole, than in any other country in Europe. The education of the people is wholly under the direction of the state, and parents of all classes are compelled to provide their children with instruction, either by giving them a proper education at home, or by sending them to schools provided for the purpose at the public expense. Every parish has an elementary school, and every town one burgh school or more, according to the population. Above these are gymnasiums, or schools of a higher order, and in which classical learning is pursued; and there are also numerous normal schools, for the training of properly qualified masters. This intellectual culture, however, is not always accompanied by a corresponding training of the moral faculties.

Prussia contains seven universities; those of Berlin, Breslau, Halle, Bonn, Königsberg, Munster, and Greifswald. There are numerous public libraries in the different provincial towns, and learning is throughout held in very high estimation.

Prussia is essentially a military nation, and maintains a large standing army. All classes of the male population (with the exception only of ministers of religion, teachers of schools, persons in the civil employ of government, and professors in the universities) are liable to be called on, under certain regulations, to take part in military service, so that the country may almost be said to consist of a nation of soldiers, and the highest value is attached to military distinction.

Prussia has no navy of any consequence, nor any foreign colonies.

SECTION IV. — SMALLER GERMAN STATES.

(298.) The remaining states of Germany, after Austria and Prussia, are enumerated in the following Table, with the area and population of each: —

	Area in Eng. sq. miles.	Popu- lation.	No. of inhabitants to sq. mile.
Bavaria - - - - -	29,484	4,541,000	154
Hanover - - - - -	14,846	1,819,000	122
Wurtemberg - - - - -	7,525	1,733,000	230
Saxony - - - - -	5,776	2,039,400	355
Baden - - - - -	5,916	1,357,000	229
Mecklenburg (2) - - - - -	6,239	641,000	102
Hessen-Cassel - - - - -	3,740	755,000	210
Hessen-Darmstadt - - - - -	3,245	854,000	263
Holstein and Lauenburg - - - - -	3,980	573,000	143
Oldenburg - - - - -	2,441	285,000	116
Nassau - - - - -	1,839	432,000	234
Brunswick - - - - -	1,427	271,000	189
Sachsen-Weimar-Eisenach - - - - -	1,405	264,000	187
Luxemburg - - - - -	990	195,000	196

	Area in Eng. sq. miles.	Popu- lation.	No. of inhabitants to sq. miles
Sachsen-Meiningen - - -	972	166,000	170
Sachsen-Coburg-Gotha - - -	772	151,000	195
Sachsen-Altenburg - - -	513	133,000	259
Anhalt (2) - - - - -	919	168,000	183
Schwarzburg (2) - - - -	699	130,000	186
Lippe (2) - - - - -	609	135,000	221
Reuss (2) - - - - -	593	115,000	193
Waldeck - - - - -	461	58,000	125
Hessen-Homburg - - - -	106	25,000	235
Lichtenstein - - - - -	61	7,000	114
Hamburg - - - - -	136	220,000	
Lubeck - - - - -	127	54,000	
Bremen - - - - -	74	89,000	
Frankfort - - - - -	39	75,000	

(299.) **BAVARIA** consists of two distinct portions, the larger of which extends from the parallel of $50^{\circ} 40'$ southward to the borders of Tyrol, and from the meridian of 9° on the west to the frontiers of Bohemia and Upper Austria on the east. It forms an upland plain or table-land (Art. 25.), which is crossed by the Danube from west to east, and the northern part of which is watered by the Mayn and its tributaries, belonging to the basin of the Rhine. The smaller and detached portion of Bavaria lies to the westward of the Rhine, and adjoins France on the south and the territory of Prussia on the west: it is hilly, and includes the northern parts of the chain of the Vosges Mountains (Art. 26.).

(300.) **WURTEMBERG** adjoins Bavaria on the east and the territory of Baden on the west, and is almost wholly enclosed by the dominions of those two states. On the south it touches on the Lake of Constance. It is watered by part of the Upper Danube, and by the Neckar, an affluent of the Rhine. Wurtemberg is a hilly district, though nowhere of great elevation.

(301.) **BADEN** is a narrow strip of territory, of semicircular shape, extending along the east bank of the Rhine; it contains the range of the Schwarz Wald, or Black Forest, on the eastern slope of which is the source of the Danube (Arts. 25. and 38.). Baden is throughout hilly, and is a highly picturesque and fertile district.

(302.) **SAXONY** is enclosed by the dominions of Prussia, Bavaria, and the Austrian province of Bohemia, from the latter of which it is separated by the chain called the Erz Gebirge. The south-eastern parts, adjacent to these mountains, are hilly, and form a district which, from its picturesque character, is called the Saxon Switzerland: the

northern parts are level, and belong to the great plain. Saxony is crossed by the Elbe from s. e. to n. w., and is watered by numerous tributaries of that river.

(303.) The territory of HANOVER forms the north-western part of Germany. Its northern boundary is the North Sea; on the south it is bounded by the Prussian dominions, on the east by Prussia and the course of the Elbe, and on the west by Holland. A small detached portion of Hanover is separated from the rest of the state by the little territory of Brunswick. The state of *Oldenburg* is entirely included within the limits of Hanover, and touches upon the shores of the North Sea, near the mouth of the Weser.

Nearly the whole of Hanover belongs to the region of the great plain (Art. 31.), which to the west of the Elbe consists chiefly of extensive tracts of sand covered with furze and juniper, or of vast moors and marsh-land. The lowlands on the coast are in some cases below the sea-level, and are kept from inundation by means of dykes, as in Holland: these lands are, however, the most productive portion of the kingdom. In the detached portion of Hanover, to the s. e., is the group of the Harz Mountains (Art. 25.); their highest summit, the Brocken, is within the limits of the Prussian territory.

(304.) MECKLENBURG lies to the north and west of the Prussian dominions, between the provinces of Brandenburg and Pomerania, the Baltic Sea, and the course of the Elbe. It consists of a sandy plain, interspersed with forests and lakes, some of the latter of which are of considerable size. Mecklenburg forms two distinct states, distinguished as *Mecklenburg-Schwerin* and *Mecklenburg-Strelitz*, the latter of which is the smaller, and forms the more eastern part of the territory.

To the west of Mecklenburg are *Holstein* and *Lauenburg*, which extend between the Baltic and North Seas, and form part of the territories of Denmark. The German portion of Luxemburg belongs to the Kingdom of the Netherlands, and has been already noticed (Art. 250.).

The territories of *Hessen-Cassel*, *Hessen-Darmstadt*, and the various smaller states, consist of several detached portions, which are so mixed up with one another, and with different parts of the Prussian provinces, as to make it impossible to acquire any correct idea of their relative situation without reference to maps upon a large scale; and even then

their number and irregular forms rather confuse than assist the memory. They are in general hilly, well-watered, and fertile territories. *Lichtenstein*, the smallest, is situated on the eastern bank of the Rhine, above the Lake of Constance, adjacent to Switzerland and the Austrian province of Tyrol.

(305.) The *climate* and *natural productions* of the above territories resemble those of the German provinces of Prussia and Austria, allowance being made for the differences produced by the gradual increase of temperature from north to south. In the northern plains the atmosphere is humid and variable, and influenced by the fogs and tempests from the two adjacent seas. In the central and southern parts the hills form a barrier against the effects of the maritime climate; the sky is not obscured by mists, and the regular succession of the seasons not interrupted by the stormy winds prevalent further to the north.

The soil of Germany is generally productive. Among the heathy and sandy plains in the north are fertile tracts bordering on the rivers, in which abundant crops of corn are raised; and the beautiful valleys and small plains among the hilly regions often rival in fertility the best alluvial soils of other countries. In general, the soil of the north is heavy, and better adapted for corn; that of the south, light, and more suited to the growth of the vine. The proportion of good soil is greatest in the middle districts, between the sandy plains of the north and the mountains of the south. The territory bordering on the east bank of the Rhine, and watered by its tributaries the Neckar and Mayn (belonging to the states of Baden, Hessen-Darmstadt, and Nassau), has a warmer climate and richer soil than any other part of Germany; the chestnut and almond trees abound here, and grapes of the finest quality are grown.

There are extensive forests in all parts of Germany, and wild animals are numerous (Art. 289.). The mineral productions are varied and abundant (Art. 56.).

(306.) *Inhabitants*. — The total population of Germany amounts to 43,000,000, an average of 176 to the square mile; but of these, nearly 13 millions are inhabitants of the German provinces of the Austrian empire, and 13 millions belong to the German portions of Prussia. Deducting these, the total population of the remaining German states is a little more than 17,000,000.

With the exception of the Jews, who are numerous in many of the towns, the whole of the people of the smaller German States belong to the Germanic or Teutonic race, divided only by the two dialects of their language known as the High Dutch and the Low Dutch. The latter of these prevails in the northern states, and in the Prussian provinces of the Rhine, Westphalia Pomerania, and Brandenburg, but the former is

the language of instruction in the schools throughout the country, and is generally understood by all classes of the people.

Though populous in particular parts, Germany is, on the whole, thinly inhabited compared with some other European countries. Saxony is the only portion which has more than 300 inhabitants to a square mile : next in order of populousness is the Rhenish province of Prussia, and after that, Austrian Silesia, Nassau, and Hesse-Darmstadt, with a few other of the smaller states, and the Austrian provinces of Bohemia and Moravia. The least populous portions are the sandy plains of the north, adjacent to the Baltic and North Seas.

(307.) *Industrial pursuits.*—The *agriculture* is similar to that of the German provinces of Austria and Prussia : rye is much more extensively grown than wheat, especially in the north, and forms, with potatoes, the chief food of the peasantry. Barley and oats are also largely cultivated. Allowing for the great extent of land in cultivation, the produce of the soil is not, on the whole, considerable ; but as three-fourths of the population are engaged in agriculture, there is a surplus of corn for exportation.

The cultivation of *garden vegetables* is carried to great perfection, especially that of the cabbage, which is largely consumed and exported in the form of *sauer-kraut*. *Flax* is raised in great abundance, and supplies employment in spinning to the families of the peasantry during the winter season, besides affording the material for manufacture upon a large scale. Great quantities of *rape* and *linseed* are grown, and made into oil. *Hemp* is raised, but not in sufficient abundance to render unnecessary considerable import from Russia. The *vine* is grown in the south, and the wines of the finest quality are made in the neighbourhood of the Rhine and the Mayn. But the whole quantity of wine made in Germany is not more than a sixth part of the produce of France, and but little is exported. *Madder* and *liquorice* are extensively produced in Bavaria, and form considerable articles of export.

Wool is a staple produce of Saxony, where great attention is paid to the breeding of sheep, and some of the wool supplied is of the finest quality. In the countries adjacent to the Baltic and North Seas, oxen of large size are reared, and numerous exported.

(308.) *Manufactures.*—The most considerable of these are linen and woollen goods, leather, earthenware, and porcelain. Manufacturing industry is generally active throughout Germany, especially so in Saxony and in the Prussian provinces already described (Art. 292.). The manufactures of Germany are not limited to particular districts (as in our own country, where one branch of manufacture is peculiar to a certain locality), but woollen, linen, cotton, silk, and iron wares, are made in almost every town of moderate population. The fine woollen and linen cloths of Saxony are highly es-

teemed ; and the porcelain made at *Meissen*, in that country (the same that is usually known as Dresden china), is distinguished for its beauty and variety of design.

The quantity of *beer* furnished by the breweries in the towns of the north is very considerable, and the distillation of ardent spirits from grain is an extensive branch of industry : vinegar is prepared from the grapes in those districts where they do not ripen sufficiently for wine. In the towns, musical, mathematical, and optical instruments, with watches and clocks, are well and cheaply made ; and the manufacture of wooden toys, dolls, and various articles of plaited straw, affords employment to great numbers of the inhabitants.

Paper is very extensively made in Germany, and every branch of industry connected with the book-trade is largely carried on. The towns of Leipzig, Munich, Stuttgart, Gotha, Weimar, Carlsruhe, and many others, are distinguished for their literary activity, and for the immense number of publications, of every variety, which are issued from their presses.

(309.) *Commerce*.—The *imports* of Germany are chiefly cotton and silk manufactures (the former mostly from our own country); wines and brandy from France ; hemp, tallow, and leather, from Russia ; and the usual produce of tropical countries (sugar, coffee, &c.) The *exports* are corn, live-stock (oxen and horses), wool, timber, iron, lead, vitriol, salt, stones for lithographic printing (from Bavaria), honey, wax, and other articles of raw produce ; together with porcelain, glass, and various minor manufactures, as wooden clocks, toys, &c. : besides some manufactured linen and woollen goods to the neighbouring states.

The greater part of the foreign trade is carried on by the vessels of other countries, chiefly the Dutch and the English. The ports of Hamburg, Bremen, Lubeck, and Embden, are its principal seats.

The interior transit trade is very considerable, and has been greatly increased by the formation (in 1818), through the influence of Prussia, of a great Commercial League, called the *Zollverein*, the object of which is to provide freedom of transit for all goods through the different states of which Germany is composed. Previously to the establishment of this League, the numerous and constantly-recurring custom-house regulations on the frontiers of the various states were a great obstruction to commerce ; but in the countries which form members of the *Zollverein* all duties of export or import are now paid on the general frontiers of the League, and when any commodities have once passed within its limits they may be conveyed without further hindrance or investigation throughout its whole extent. The duties collected on the general frontier are all received into a common treasury, and afterwards apportioned to the different states in the ratio of their respective populations. All the considerable states of Germany have become members of this commercial league, excepting Austria and Hanover, and the territories

which it now embraces comprise a population of more than 29,000,000, of which, so far as the trade of the country is concerned, Prussia is the head.

The principal seats of the inland trade of Germany are *Frankfort* (on the Mayn), *Leipzig*, *Augsburg*, *Nürnberg*, *Brunswick*, *Hanover*, *Cassel*, *Munich*, &c., together with Vienna, Berlin, Frankfort-on-the-Oder, and other places in the Austrian and Prussian dominions. The fair of Leipzig has no rival in the sale of books.

The internal communication has been noticed under the head of Prussia (Art. 294.). Railways are daily becoming more extensively developed; steam communication on the Rhine has assumed great commercial importance, and forms the most usual method by which the country is visited by foreigners. The Elbe is also an important channel for the conveyance of the produce of the provinces through which it flows.

(310.) *National divisions: Towns, &c.* — Bavaria, Wurtemberg, Baden, and Saxony, are each divided into *circles*, of which Bavaria has eight; Wurtemberg, Baden, and Saxony, each four. Hanover is divided into seven provinces. Mecklenburg has two divisions, each of which forms a separate state; similarly, Anhalt forms two distinct governments; and Schwarzburg, Hohenzollern, Lippe, and Reuss, two each.

The following Table exhibits the names of the principal towns in each state, with their population. The name of the capital of each is in italics:

States.	Towns, with population.
Bavaria - - - -	<i>Munich</i> , 132,000 — Nürnberg, 45,000 — Augsburg, 39,000 — Ratisbon, 23,000 — Bamberg, 22,000 — Würzburg, 27,000 — Anspach, 15,000 — Furth, 15,000 — Bayreuth, 17,000 — Erlangen, 11,000 — Passau, 10,000 — Landshut, 9000 — Amberg, 11,000 — Rothenburg, 5000 — Speyer, 9200 — Aschaffenburg, 9000 — Landau, 6000 — Zweibrücken (or Deux-ponts), 8000 — Kissingen — Dettingen — Hochstett — Hohenlinden.
Wurtemberg - -	<i>Stuttgart</i> , 46,000 — Ulm, 21,000 — Reutlingen, 12,000 — Heilbronn, 14,000 — Tübingen, 8000 — Ludwigsburg, 11,000 — Hall, 6500 — Esslingen, 7000.
Baden - - - -	<i>Carlsruhe</i> , 25,000 — Mannheim, 26,000 — Freyburg, 11,000 — Heidelberg, 12,000 — Bruchsal, 7000 — Pforzheim, 7000 — Rastatt, 6000 — Constance, 6500 — Baden-Baden, 4200.
Saxony - - - -	<i>Dresden</i> , 109,000 — Leipzig, 70,000 — Chemnitz, 25,000 — Freiberg, 14,000 — Bautzen, 12,000 — Zittau, 10,000 — Plauen, 11,000 — Mitweyda, 7000 — Meissen, 9000.
Hanover - - - -	<i>Hanover</i> , 42,000 — Hildesheim, 14,000 — Lüneburg, 9,000 — Göttingen, 11,000 — Osnabrück, 11,000 — Emden, 15,000 — Celle (or Zell), 12,000 — Clausthal, 14,000 — Stade, 6000.
Mecklenburg - -	<i>Schwerin</i> , 17,000 — Rostock, 20,000 — Wismar, 11,000 — <i>Neustrelitz</i> , 6000 — New Brandenburg, 6100.
Hessen-Cassel - -	<i>Cassel</i> , 32,000 — Hanau, 15,000 — Fulda, 9000 — Marburg, 8000 — Hersfeld, 6000.
Hessen-Darmstadt	<i>Darmstadt</i> , 30,000 — Mainz, 31,000 — Worms, 9000 — Offenbach, 9000 — Giessen, 8000.
Oldenburg - - -	<i>Oldenburg</i> , 8000 — Delmenhorst, 2000 — Kniphausen.
Nassau - - - -	<i>Wiesbaden</i> , 12,000 — Biberach, 5000 — Limburg, 3000 — Rudesheim, 2500 — Ems — Nieder-selters.
Brunswick - - -	<i>Brunswick</i> , 42,000 — Wolfenbüttel, 9000 — Helmstadt, 6000.
Sachsen-Weimar -	<i>Weimar</i> , 12,000 — Eisenach, 9000 — Jena, 5000.

Provinces.	Towns, with population.
Sachsen-Meiningen	<i>Meiningen</i> , 6000 — <i>Hildburghausen</i> , 4000 — <i>Saalfeld</i> , 4000
Sachsen-Coburg-	
Gotha - - - -	<i>Gotha</i> , 14,000 — <i>Coburg</i> , 12,000.
Sachsen-Altenburg	<i>Altenburg</i> , 14,000 — <i>Ronneburg</i> , 5000.
Anhalt - - - -	<i>Dessau</i> , 12,000 — <i>Bernburg</i> , 6000 — <i>Keethen</i> , 6000 — <i>Zerbst</i> , 8000.
Schwarzburg - -	<i>Sondershausen</i> , 3600 — <i>Rudolstadt</i> , 5700 — <i>Arnstadt</i> , 5000.
Lippe - - - -	<i>Detmold</i> , 4700 — <i>Bückeburg</i> , 3000 — <i>Lemgow</i> , 4000.
Reuss - - - -	<i>Greitz</i> , 6000 — <i>Schleitz</i> , 5000 — <i>Gera</i> , 11,000.
Waldeck - - - -	<i>Corbach</i> , 2200 — <i>Pyrmont</i> , 1100.
Hessen-Homburg -	<i>Homburg</i> , 4500 — <i>Melassenheim</i> , 2500.
Lichtenstein - -	<i>Lichtenstein</i> , 1000.

(311.) *Munich*, the capital of Bavaria, is situated on the banks of the river *Isar*, a tributary of the *Danube*. It is one of the finest cities in Europe, and contains numerous and splendid collections of paintings, sculptures, and other works of art, besides its magnificent Royal Library of 600,000 volumes. It is also the seat of a University. On the plain to the westward of the city, a colossal female figure (54 feet in height), intended as an emblematical representation of Bavaria, was erected a few years since.

Nürnberg (or *Nuremberg*), 90 miles n. by w. of *Munich*, and situated on the *Pegnitz*, one of the tributaries of the *Mayn*, was celebrated in the middle ages as one of the richest and most important commercial cities in Europe. It is still a considerable seat of trade and industry. *Augsburg*, 37 miles north-west of *Munich*, on the river *Lech* (an affluent of the *Danube*), is an important manufacturing and commercial town, celebrated for its goldsmith work and jewellery, the making of clocks, &c., as well as its woollen and cotton manufactures. It has an ancient cathedral. *Ratisbon* (in German, *Regensburg*), situated on the south bank of the *Danube*, is a place of considerable trade: six miles to the eastward, on a hill which rises from the north bank of the river, is a splendid temple called the *Walhalla*, designed to contain statues and busts of the most distinguished men of Germany. *Wurzburg* (on the *Mayn*), *Bamberg*, *Anspach*, *Furth*, and *Bayreuth* (all situated on tributaries of that river), are distinguished as busy manufacturing and commercial towns, and *Wurzburg* is the seat of a University. *Passau*, at the confluence of the *Inn* with the *Danube*, is a strongly-fortified and important commercial city. Adjacent to the village of *Hochstett*, on the north bank of the *Danube*, near the western extremity of Bavaria, is the field of *Blenheim*, the site of the victory gained by *Marlborough*, in 1704.

Spires, or *Speyer*, on the left bank of the *Rhine*, in the western and detached portion of Bavaria, though now a small town, has a great name in history, and was formerly much more populous and wealthy than at present. Numerous diets have been held at *Spires*, the most noteworthy of which was in 1529, when the famous protest given in by the followers of *Luther* led to their receiving for the first time the appellation of *Protestants*.

(312.) *Stuttgart*, the chief city of *Wurtemberg*, is situated on a rivulet which falls into the *Neckar*, and is surrounded by hills covered to their summits with vineyards and orchards. It is a great seat of the book-trade. *Ulm*, on the north bank of the *Danube*, at the frontiers of *Wurtemberg* and *Bavaria*, is a place of considerable trade.

(313.) *Carlsruhe*, the capital of the state of *Baden*, is a well-built city,

a few miles to the eastward of the Rhine, in a highly fertile and picturesque district. The most important town in the state, however, is *Mannheim*, situated at the confluence of the Neckar and the Rhine, which is a place of great trade. *Heidelberg*, on the Neckar, a few miles s. e. of Mannheim, possesses a University. *Baden-Baden*, 20 miles s. by w. of Carlsruhe, situated in a valley of the Black Forest, is noted for its springs, which are the annual resort of numerous strangers.

(314.) *Dresden*, the capital of the kingdom of Saxony, is delightfully situated on both banks of the Elbe, and is one of the best-built and finest cities in Europe. It has extensive collections of works of art, a Royal Library of 300,000 volumes, and is the seat of considerable manufacturing industry. *Meissen*, on the left bank of the Elbe, below Dresden, is distinguished for its porcelain manufactories.

Leipzig, situated in a plain 60 miles w. n. w. of Dresden, is one of the most industrious and commercial towns in Europe. It has three great annual fairs, at which numerous merchants from foreign countries attend, and at which an immense amount of business is transacted; it is especially noted for its trade in books. Leipzig is the seat of a University, of high reputation, and has numerous literary and scientific establishments. *Freiberg*, 20 miles s. w. of Dresden, is the centre of an important mining district, and has a celebrated mining academy. *Chemnitz*, 40 miles to the w. of Dresden, has considerable manufactures of cotton, woollen, and silk goods, and is the most manufacturing town in the kingdom. Saxony has numerous other manufacturing and commercial towns, of which *Bautzen* (32 miles e. of Dresden), *Zittau* (in the extreme s. e. part of the kingdom), and *Plauen* (near the western frontier), are the most considerable.

(315.) *Hanover*, the capital of the state of that name, stands in a sandy plain, on the banks of the river Leine, a tributary of the Weser. It has considerable transit trade, but is not otherwise important. *Göttingen*, 60 miles to the s., and near the east bank of the Leine, is the seat of a University, one of the most celebrated in Germany, with a library of 350,000 volumes. *Clausthal*, situated amidst the silver and lead mines of the Harz Mountains, is a flourishing town, and has a mining school. *Lüneburg*, in the northern part of the kingdom, a few miles to the south of the Elbe, lies in the midst of extensive heaths. It is a place of considerable trade, and has extensive quarries of limestone, and salt-pits, in its neighbourhood. Immense numbers of bees are reared in this district, and in the heathy tract to the south and west. *Emden*, situated on the north side of the gulf called the Dollart, near the mouth of the river Ems, is a town of considerable commercial importance, and the principal sea-port of Hanover. It has manufactures of linen, stockings, tobacco, brandy, &c.; and was formerly a great seat of the herring-fishery, but this has declined.

(316.) *Mainz* or *Mentz* (in French, *Mayence*),—on the left bank of the Rhine, nearly opposite the junction of its tributary, the Mayn,—is a large and very strongly fortified town, and the centre of a considerable trade. Gutenberg, the inventor of printing, was a native of this town, which is distinguished as the scene of many historical events. *Worms*, 27 miles to the s., on the w. bank of the Rhine, is a very ancient city, and has a fine cathedral, but has declined from its former importance.

Weimar and *Gotha*, situated in the central part of Germany, and the respective capitals of two of the smaller Sachsen states, are distinguished for their extensive literary and scientific establishments, which surpass those of many cities of much larger size. *Jena*, a few miles to the s. w. of Weimar, is historically noteworthy for the victory of Napoleon I. over the Prussians, in 1806.

(317.) *Hamburg*, the great seaport of Germany, and one of the most important commercial cities in the world, is situated on the right or north bank of the Elbe, about 60 miles above its mouth. Vessels of large size come quite up to the town, in front of which the river is divided into several channels. Great part of Hamburg was consumed by a conflagration in 1842, and in rebuilding the parts then destroyed great improvements were made in the arrangement of the streets and general character of the houses.

The trade of Hamburg embraces every article of German commerce, both in the way of import and export, and the Elbe is the great channel by which these various commodities are conveyed. It has likewise considerable manufactures; the principal branches of industry in this respect are sugar-refining, brewing and distilling, calico-printing, dyeing, hat-making, silk and velvet weaving, the making of snuff and tobacco, whalebone-cutting; with rope-walks, lime-kilns, &c. The population of the city of Hamburg, with its suburbs, exceeds 170,000: it has numerous and well-conducted schools, and the inhabitants are distinguished by their energy, enterprise, intelligence, and general activity.

A small adjacent territory, on the north side of the Elbe, belongs to Hamburg, and with it constitutes the independent state of that name. It also possesses a small district on the shores of the North Sea, outside the mouth of the Elbe, in which is the port of *Cuxhaven* (800 inhabitants), where some of the larger class of vessels load and unload their goods.

(318.) *Lubeck* (28,000 inhabitants), another of the free cities of Germany, is situated on the small river Trave, a few miles above its mouth; *Travemünde*, a few miles lower down, at the point where the river enters the Baltic, is its shipping-port. Lubeck has considerable transit trade, but no longer enjoys its ancient importance. A canal communicates between the Trave and the Elbe above Hamburg, and so enables small vessels to pass between the North Sea and the Baltic without proceeding round the coast of Denmark.

(319.) *Bremen*, also an independent and free city, and only second in importance to Hamburg as a seat of German commerce, is built on both banks of the Weser, about 40 miles above the mouth of the river. It has considerable manufactures, among the principal of which are those of snuff and cigars, besides numerous distilleries and breweries, linen and woollen factories, sugar-refineries, tanneries, soap and oil works, and many others. Bremen is the commercial emporium of the countries traversed by the Weser, and is a great place of embarkation for continental emigrants to America. At the mouth of the river, on its east side, is the recently-constructed port of *Bremerhafen*, at which the larger-sized vessels stop, but ships drawing not more than 7 feet of water come up to Bremen itself. The city of Bremen has a population of 60,000.

(320.) *Frankfort*, another of the cities which still retain the privileges of a free state, is chiefly situated on the north bank of the river

Mayn, about 20 miles above its confluence with the Rhine, and is connected by an ancient stone bridge with a suburb on the opposite bank of the river. Frankfort is the centre of the inland trade of Germany, and a great seat of its banking and other mercantile transactions; it has two annual fairs, which are much frequented for commercial purposes. The banks of the Mayn are lined with spacious quays, and the streets in the interior of the town have of late years been widened and greatly improved. The population of the city exceeds 58,000. About 22 miles to the west of Frankfort (but in the state of Nassau) is the small town of *Wiesbaden*, at the foot of Mount Tannus, much resorted to for its mineral waters.

(321.) All the smaller states of Germany have separate governments of their own, and the forms of these are very various. Bavaria, Wurtemberg, Saxony, and Hanover, have each the rank of a Kingdom; Baden, Mecklenburg-Schwerin, Mecklenburg-Strelitz, Hessen-Darmstadt, Oldenburg, Luxemburg, and Sachsen-Weimar, are called *Grand Duchies*; the sovereign of Hessen-Cassel is styled the *Elector*; and the remaining states form chiefly either *Duchies* or *Principalities*. One, Hassen-Homburg, is styled a *Landgraviate*; and the four towns of Hamburg, Lubeck, Bremen, and Frankfort, are *free cities*, and are each governed by a separate municipal administration of their own choice. The character of the governments in these numerous states varies considerably, but most of them are constitutional monarchies, in which the power is divided between the sovereign and a legislative chamber, and in some there are two chambers, forming an upper and a lower house.

The whole of the German States, including Austria and Prussia, form together a federal union, entitled the *Germanic Confederation*, the general government of which has hitherto consisted of an assembly called a *Diet*, sitting at the free city of Frankfort, and composed of representatives of the several states. Austria and Prussia are the principal powers of the Confederation, and have exercised the preponderating influence in the management of its affairs. In the general council of the Diet, these states, and also the kingdoms of Bavaria, Wurtemberg, Saxony, and Hanover, each possess four votes; Baden, the two Hessen states, Holstein, and Luxemburg, each three; and the other states either two or only one vote each, according to their relative importance. The four free cities have each one vote. The whole number of votes is seventy.

The general business of the Diet has been to provide for the security of the entire Confederation, and the management of matters relating to Germany as a whole, such as the declaration of war, the formation of treaties, &c. But within the last few years, many changes have occurred in the political relations of the various states of Germany, and the general government of the Confederation is at present in an unsettled condition.

During the long period between the ninth and nineteenth centuries, Germany constituted an elective monarchy, the sovereign — chosen by certain of the states, each of which possessed, as in the present day, its own internal government — taking the title of Emperor. The imperial rulers of Germany claimed to represent the ancient rulers of the Roman world. But this state of things was terminated by the victories of

Napoleon, in the early part of the present century. Napoleon dissolved the old German Empire, and substituted in its place the Confederation of the Rhine, formed by a union of the several German States. Francis II. then renounced the title of Emperor of Germany, which he held at the time, for that of Emperor of Austria. Upon the downfall of Napoleon, the present Germanic confederation was formed, in 1815.

The Roman Catholic religion is professed by rather more than half the population of Germany, and is entertained by the majority of the people in the states of Bavaria and Baden, besides the German provinces of Austria, and the Prussian provinces of Westphalia and the Rhine. The Protestant religion prevails in Hanover, Wurtemberg, Saxony, and most of the smaller states, besides the Prussian provinces of Pomerania, Brandenburg, and Prussian Saxony.

Education is in a highly advanced condition in Germany, especially so in some of the smaller states, and in Wurtemberg and Bavaria, in which a larger proportion of the people have received instruction than in any other country in the world, excepting some portions of the United States of America. Besides parochial schools for the education of the lower orders, there are in nearly all the towns schools of a higher order, entitled *Gymnasiums*, *Pædagogiums*, and *Lyceums*, in which instruction can be obtained at a very cheap rate; and no part of Europe possesses so great a number of Universities, or affords such facilities for coming into contact with men of learning and science, and reaping the benefits of their information. The German Universities are twenty-three in number, of which those of Berlin, Heidelberg, Leipzig, Rostock, Marburg, Jena, Giessen, Kiel, Halle, Gottingen, Erlangen, and Greifswald, are Protestant:—Prague, Vienna, Grätz, Olmütz, Innsbruck, Würzburg, Munich, and Freyburg, are Roman Catholic;—and Bonn, Tübingen, and Breslau, of mixed character.

The great number of *public libraries* contained in the towns of Germany forms a characteristic and interesting feature in the intellectual condition of that country. Nearly every town of eight or ten thousand inhabitants (and many even of much smaller population) possesses one or more libraries open to the use of the public, many of which contain collections of great magnitude and value. Thus, the town of Bonn has a library of 100,000 volumes; Oldenburg and Bamberg, each, of 60,000; Cassel, of 70,000; Darmstadt, Heidelberg, and Wolfenbüttel, each 200,000; Weimar, 110,000; Gotha, 150,000, &c.; besides the larger collections of Berlin, Dresden, Gottingen, and Vienna, already mentioned. There are also numerous learned societies spread over Germany, many of which have formed large and highly valuable collections of objects of natural history, works of art, and various articles calculated to render assistance in the pursuit of knowledge.

Prussia and Austria are the principal military powers of Germany, but the force maintained by Bavaria, Hanover, and some of the smaller states, is also considerable. Each state is bound to furnish a contingent to the general army of the Confederation. Luxemburg, Mentz, and Landau, are the three principal fortresses of the federal government, and are strongly garrisoned.

CHAPTER VII.

THE COUNTRIES OF NORTHERN AND EASTERN EUROPE.

SECTION I. — DENMARK.

(322.) *Extent and Boundaries.* — Denmark is bounded on the north by the channel of the Skager-rack, on the west by the North Sea, on the south by Germany, and on the east by the Baltic Sea and the Kattegat. Its most northern point, the Skawe, is in latitude $57^{\circ} 44'$; its most southern, near the town of Lauenburg, on the banks of the Elbe, in latitude $53^{\circ} 20'$: between these two points, the greatest length of Denmark from north to south is about 300 miles, Its greatest breadth, between the west coast of Jutland and the easternmost point of the Island of Zealand, is 180 miles, but the extreme width of the continental part of the kingdom is only 110 miles, and at its narrowest portion is less than 30 miles across from sea to sea.

The total area of Denmark is 21,856 English square miles, nearly equal to three times the size of Wales, and rather more than two-fifths of the dimensions of England. About a fourth part of its extent consists of the islands of the Danish Archipelago.

(323.) *Surface, Rivers, &c.* — The kingdom of Denmark has four natural divisions:—a peninsula, which forms the province of *Jutland*, and is its northern and broadest portion; an isthmus, by which this is connected with the mainland, and which constitutes the province of *Sleswig*; in the south, the territory of *Holstein and Lauenburg*, which forms a part of Germany; and in the east, a group of islands, of which *Zealand* is the most considerable.

The continental part of Denmark belongs to the great European plain, and is almost entirely level. There are some inequalities of surface in the interior of Holstein, but the elevation is inconsiderable. The coasts are generally low, and the western shores are in many places protected from

inundations of the sea by means of dykes, as in Holland. The western coast of Sleswig is lined by a chain of low and narrow islands, which have been separated from the mainland by the action of the sea.

The rivers of Denmark are inconsiderable in point of size: the *Eyder* which forms the boundary between Sleswig and Holstein, flows into the North Sea, and is navigable for small vessels below the town of Rendsburg, whence a canal connects it with the town of Kiel, on the Baltic coast. Near the eastern borders of the kingdom is the *Trave*, which flows into the Baltic, below Lubeck, and which is connected by a canal with the Elbe (Art. 318.). The last-mentioned river forms part of the southern frontier of Denmark.

There are a great number of lakes, both on the mainland and in the islands, generally of small size; and also numerous salt-water lagoons, adjacent to the coasts. The largest of these is the *Liim Fiord*, which leaves the Kattegat by a narrow channel on the coast of Jutland, and afterwards spreads out to a great breadth, so as to occupy a large part of the interior of the peninsula, enclosing several islands, and extending entirely across to the shores of the North Sea. During a violent storm in 1825 the narrow isthmus which divided the Liim Fiord from the North Sea was broken through, and the channel thus formed has since remained open, though it is too shallow to be of much use for the purpose of navigation.

(324.) *Climate, Productions, &c.*—The climate of Denmark is humid, but generally temperate in character: vapours and moist fogs are of frequent occurrence, owing to the abundance of water; but these are dispersed by the strong winds which prevail during great part of the year. In May and June a powerful north-west wind called the *Skai* does injury to the vegetation by its violence and the lowness of its temperature. The winter is frequently severe, and both snow and rain are of almost constant occurrence during that season. But, though moist, the climate is in general not insalubrious.

The soil near the coasts (particularly on the west and south-west) is generally a rich marsh-land, highly favourable to the development of vegetation; but in the interior of Jutland and Holstein, much of it is dry and sandy, and large tracts are covered with heath. There are few forests, and consequently hardly any of the larger wild animals. The woods were formerly extensive, but have gradually been cut down; those that remain are chiefly on the eastern coast of Jutland, in the interior of Holstein and Lauenburg, and in some parts of Zealand. In these, the wild boar is still occasionally met with; the stag and the fallow-deer are mostly confined to parks, but the fox, marten, and polecat, exist in great numbers. Game is abundant, and, both on the coasts of Jutland, and around the shores of the Liim Fiord, there are vast numbers of geese, ducks, and other birds, the feathers of which form an

article of traffic. The adjacent seas, as well as the fiords and rivers, abound in fish, and a large number of the inhabitants are engaged in the fisheries, the produce of which supplies the people near the coasts with great part of their food.

Denmark has scarcely any mineral productions ; turf is most generally used for fuel, but coal, salt, and other minerals, are imported. At *Odersloe*, in Holstein, there is a brine-spring, but its produce is not sufficient for the consumption of the kingdom.

(325.) *Inhabitants*. — The population of Denmark amounted, in 1858, to 2,468,000,—an average of only 112 inhabitants to the square mile. These all belong to the Teutonic, or German, family of nations, though the language spoken in the greater part of the kingdom differs considerably from the German, and is a dialect of the Norse or Scandinavian tongues. The *Danes* (properly so called) form the majority of the population, and occupy the islands, the peninsula of Jutland, and the greater part of Sleswig:—Holstein and Lauenburg, and the southern portion of Sleswig, are inhabited by *Germans*. Besides these are the *Frisons*, who inhabit the islands on the west coast of Jutland and Sleswig ; and the *Angles*, who dwell in the east of the latter province, and are believed to be the descendants of the nation from whom the name of our own country (Angle-land or England) is derived.

(326.) *Industrial Occupations*. — The wealth of Denmark consists in its *pastures*, which are rich and extensive. The cattle of Holstein are particularly fine, and both horses and oxen are reared in great numbers and largely exported. The dairy produce of this province, as well as that of other parts of the kingdom, is likewise considerable ; cheese is made in great abundance, and forms an article of export, together with salt beef and pork, butter, and wool. The agricultural produce is also great, and besides supplying the home consumption leaves a large surplus for export. Oats, barley, and rye, are the grains most generally grown, and the latter is the chief food of the peasantry : wheat is more largely raised in Holstein than elsewhere. Rape, beans, tares, buck-wheat, and potatoes, are also objects of extensive cultivation, particularly rape, which is grown with advantage in the marshy tracts along the west coast. Agriculture is more advanced in the provinces of Holstein and Sleswig than in other parts of Denmark. Two-thirds of the whole population of the kingdom derive their support from

the cultivation of the soil and the labours of the farm and dairy.

(327.) *Manufactures*.—Denmark has no manufactures of any importance, and does not possess the native materials (iron and coal) requisite for the prosecution of this branch of industry. Throughout the country the peasantry in general weave various linen and woollen articles for their own consumption; and in Copenhagen, Altona, and the other towns, both these, and also cotton and silk goods, are made, but not on a large scale: the chief supply of manufactured goods is derived from abroad. Distillation and brewing are both prosecuted to a great extent; earthenware is made in some places, and in Holstein there are some brass and copper works. There are also some sugar-refineries, paper-mills, soap-works, tanneries, hat-manufactories, &c.

(328.) *Commerce*.—The foreign commerce of Denmark is considerable, though not to the extent that might be expected from the favourable position of the country for maritime traffic. It is for the most part confined to the supply of the population with the manufactures of other countries, and with articles of colonial produce,—in exchange for the surplus agricultural productions of their own territory. The *imports* are coals, iron, salt, timber, tar, fruits, wine; cotton, woollen, and silk, manufactures; glass and hardware; with coffee, tea, sugar, and various tropical produce.

The principal *exports* are butter, rape-seed, barley, wheat, rye, oats; horses and oxen; salt beef and pork, hides and skins, wool, honey; and various minor articles of farm and dairy produce. The mercantile navy of Denmark is considerable, and the Danes have always been distinguished for their skill and enterprise in nautical undertakings.

(329.) *Internal Communication*.—The roads in Zealand and the other islands are generally good, but in the other parts of the kingdom are in a neglected state. Railways have at present only been introduced to a limited extent. There is one between Copenhagen and the small town of Roskilde, 16 miles to the westward; and, in Holstein, another line communicates between Altona (adjacent to Hamburg) and Kiel, on the Baltic, with branches to the other principal towns of that province.

Water-communication is rendered abundant by the numerous arms of the sea and fiords, and there are three channels of connection between the North Sea and the Baltic, independently of the passage round the Skaw, by the Skager-rack and Kattegat. These are, 1st, the *Canal of Stecknitz*, which unites the Trave with the Elbe (Art. 318.),—2nd, the *Canal of Kiel*, which connects the river Eyder with the Baltic,—and 3rd, the *Lim Fiord*, which reaches entirely across the peninsula of

Jutland. But these are only capable of being used by the smaller class of vessels.

Ships of large size enter the Baltic through the channel of the Sound (Art. 8.), and Denmark exercises the right of levying a toll upon all vessels using that passage.

(330.) *National divisions: Towns, &c.*—The provinces of the Danish crown are *Jutland* and *the Islands*, which together form the kingdom of Denmark proper; and the three duchies of *Sleswig*, *Holstein*, and *Lauenburg*, the two latter of which form part of Germany, and jointly constitute one of the members of the Germanic Confederation. *Lauenburg* is a small territory adjacent to *Holstein* on the south-east. The different provinces are subdivided into bailiwicks.

The principal towns in the various parts of the kingdom, with their population, are as follows:—

Towns, with population.	
Island of Zealand -	Copenhagen, 144,000 — Elsinore, 8000 — Roskilde, 3800 — Fredericksborg.
Island of Funen -	Odensee, 11,000.
Jutland - - - -	Aarhus, 8000 — Aalborg, 8000 — Viborg, 3800.
Sleswig - - - -	Flensborg, 16,000 — Sleswig, 11,000 — Tönning, 2700.
Holstein - - - -	Altona, 37,000 — Kiel, 15,000 — Glückstadt, 6000 — Rendsburg, 10,000.
Lauenburg - - -	Lauenburg, 3800 — Ratzeburg, 3000.

(331.) *Copenhagen*, the capital of Denmark, and the chief seat of its trade, is situated on the east coast of Zealand, upon a flat piece of ground; in front of it is the small island of Amak, the channel between which and the city forms the harbour. Towards the sea is an extensive assemblage of batteries, docks, stores, and arsenals; and the greater part of the town is enclosed by a line of fortifications, which are now, however, formed into public walks.

Copenhagen is distinguished by the great number of its palaces, public buildings of various kinds, and extensive collections of works of art; and is the seat of a celebrated University. The Royal Library contains 412,000 volumes: many of the palaces of its former sovereigns are now used as picture-galleries, libraries, and museums; among the latter of these the most interesting are the Museum of Northern Antiquities, and the Thorwaldsen Museum, the last consisting of remains connected with the great sculptor of that name, and various works of art executed by his hands. Copenhagen is badly paved and lighted, and deficient in the supply of water to the houses; in these respects it is even inferior to most of the small towns in our own country. The island of Amak is very fertile, and supplies enormous quantities of vegetables, milk, butter, and cheese, for the consumption of the capital. — *Roskilde*, about 16 miles to the west, has an ancient cathedral, which contains the tombs of the sovereigns of Denmark for many generations past.

Elsinore, 25 miles to the north of Copenhagen, is a small commercial town, situated on a low plain beside the channel of the Sound,

the passage of which is commanded by the adjacent fortress of Kronborg Castle.

Altona, the second city in Denmark, is situated on the right bank of the Elbe, about two miles below Hamburg. It is a place of considerable trade, and ship-building is carried on to some extent; there are also some cotton, tobacco, and other factories, with sugar-houses, breweries, and distilleries. But it is very inferior in importance to its great neighbour, Hamburg.

Kiel and *Flensburg*, both situated on inlets of the Baltic, are sea-port towns, with considerable trade, and the former is the seat of a University. Travellers from England to Copenhagen and other places in the north of Europe frequently pass by way of Hamburg and Kiel, between which towns there is a railway, as well as a good road. The other towns in Denmark are all of small size: besides those above named, *Aarhuus*, *Gluckstadt*, *Rendsburg*, and *Tonningen*, are places of some trade.

Of the numerous islands in the Baltic, in addition to those already mentioned, the most easterly which belongs to Denmark is *Bornholm*, situated at some distance from the main group (Art. 46.). Bornholm possesses some mineral produce of value, including limestone, blue marble, various clays, ochre, and coal, though the latter has not been wrought to much extent. Besides agriculture and fishing, the making of tiles, bricks, and earthenware, are carried on to some extent, and also brewing and distillation. Wooden clocks are likewise made and exported. The principal town, *Rønne*, is a small place on the west side of the island.

(332.) The *Farøe Islands* (Art. 45.) belong to Denmark, and form one of the provinces of the kingdom. They have a variable but temperate climate, with frequent fogs, and stormy winds of great violence. Their inhabitants number about 7000 people, who are mostly engaged in fishing, fowling, and the rearing of sheep. The latter are very numerous, and yield a coarse wool, which is worked up as a domestic manufacture, and woollen hose are even exported in considerable number. Barley is cultivated; oats and rye seldom come to perfection, but turnips and potatoes thrive well, and are important articles of food. The only town is *Thorshavn*, at the south-east extremity of the island of Stromsøe, which has 1600 inhabitants.

(333.) The natural features of *Iceland*, which likewise belongs to Denmark, have been described in Art. 45. The climate of this island is very variable, and its occasional severity greatly increased by the immense quantities of floating ice which sometimes accumulate upon its coasts. But the winters are frequently very mild, and the atmosphere not colder than in Denmark or the south of Sweden. From the hills in the north part of the island the sun may be seen above the horizon during the whole 24 hours, at the period of the summer solstice.

Forests were formerly abundant in Iceland, but have all been destroyed, and wood is now scarce. Reindeer are numerous, and in a wild state; and foxes are very abundant. Bears are often brought to the shores on the masses of floating ice, and sometimes commit great devastation, but are, in general, immediately destroyed. All the coasts and adjacent islets abound with sea-fowl, and fish are very plentiful in the rivers and lakes, as well as in the surrounding seas. The inhabitants

prosecute the cod and haddock fishery, and dry the fish for sustenance during the winter months. Copper and iron are found, but are not worked : turf is the principal fuel.

Iceland has about 60,000 inhabitants, who are confined to the districts adjoining the coast, and are most numerous seated in the south-west part of the island. Only a very small portion of the land is capable of cultivation, and agriculture is chiefly confined to the growth of various grasses for the food of cattle, which are very numerous, and the rearing of which is the principal employment of the people. No corn is now grown ; potatoes and some other vegetables are cultivated, but the inhabitants live on butter, milk, and fish, with occasionally fresh meat and rye bread. The manufactures are entirely domestic, and consist of coarse articles of clothing made by the peasantry for their own use. Some wool, dried fish, down (from the nests of the eider-duck), seal skins and oil, are exported ; and rye, coffee, sugar, brandy, tobacco, and other luxuries, imported.

The inhabitants of Iceland are distinguished by the prevalence of knowledge among all classes, and the people in general are cultivated and intelligent. The island is under the government of an officer appointed by the King of Denmark, and constitutes one bishopric, of the Lutheran church. The capital is *Reikiavik*, a small place with only 600 permanent inhabitants, on the s. w. coast : but the people annually assemble in greater numbers here and at other places on the coast, and barter their native productions for articles of foreign produce. *Skalholt*, formerly the capital, now consists of a single farm house, with the remains of an ancient cathedral.

(334.) The government of Denmark is an hereditary and limited monarchy ; and there are local states which assemble in each of the provinces. Sleswig and Holstein retain laws and institutions different from the other parts of the kingdom, and but recently endeavoured to separate themselves from the Danish Crown. The nobility are numerous, and formerly enjoyed great privileges. As duke of Holstein and Lauenburg, the King of Denmark has a vote in the Germanic Diet.

The established religion is the Protestant or Lutheran, which is professed by almost the whole of the people, there being very few dissenters, though perfect toleration of religious opinion prevails.

A comprehensive and well-ordered system of education prevails in Denmark, under the direction of the state. There are primary and secondary schools established throughout the kingdom, in the former of which the elementary branches of knowledge are taught, and in the latter the higher branches of tuition. Attendance at the primary schools, which are maintained at the expense of the communes (or parishes), is compulsory on all classes — unless instruction be provided by parents for their children elsewhere. Attendance at the secondary schools, which are supported by the central government, is, on the other hand, voluntary. Private schools and private tuition are freely allowed to compete with the public schools, so long as proof of their efficiency can be furnished, when demanded by the authorities charged with the direction of education. The entire system of public education is under the charge of a minister appointed for the purpose by the state.

The results of this system, which has been in operation for a period

of more than forty years, are shown in the general diffusion of knowledge, and the formation of virtuous habits, among all classes of the Danish population, who are in this respect on a par with any other nation in Europe, and superior to most others.

There are two Universities, those of Copenhagen and Kiel, of which the former is very flourishing, and is attended by a great number of students.

The number of troops constantly maintained on duty is small, but, when required, the army is increased by a considerable militia, in which all the peasantry are liable to be called upon to serve for a certain term. The navy is considerable, and the important position and extensive coast-line of Denmark have encouraged the development of her maritime power.

Colonies.—Besides the Farøe Islands and Iceland, Denmark possesses some settlements on the west coast of Greenland; together with the islands of Santa Cruz, St. Thomas, and St. John, in the West Indies.

(335.) The island of *Heligoland* (Art. 45.), situated about 36 miles to the north-westward of the mouths of the Elbe and Weser, along with a small adjacent islet, belongs to Great Britain. The inhabitants, about 2400 in number, live entirely upon the higher part of the island, and are engaged either in fishing, or in acting as pilots to ships requiring to enter the adjacent rivers. The lobster and haddock fisheries are those principally pursued, and the produce is sent to Hamburg and London, from the former of which places the people obtain in exchange, turf, wood, and various necessary articles of subsistence. The government of the island is administered by an officer appointed by the British Crown. The inhabitants speak a dialect of the Frisian language. This island was taken from the Danes in 1807, and was formally ceded to Britain in 1814.

SECTION II.—SWEDEN AND NORWAY.

(336.) *Boundaries, Extent, &c.*—Sweden and Norway occupy the Scandinavian peninsula,—the north-western portion of the European continent,—and, besides being united under the same general government, together constitute one geographical region. They are bounded on the north and west by the Arctic and Atlantic Oceans; on the south by the channels of the Skager-rack and Kattegat, and the Baltic Sea; and on the east by the Baltic, the Gulf of Bothnia, and Russian Lapland. The isthmus which unites the Scandinavian peninsula to the mainland is nearly 300 miles across, between the head of the Gulf of Bothnia and the shores of the Arctic Ocean near the eastern extremity of Norway.

Sweden occupies the eastern and generally broader part of the peninsula, lying along the shores of the Gulf of

Bothnia and the Baltic, and stretching southward to the lat. of $55^{\circ} 20'$, where it is only divided by the strait of the Sound from the islands of the Danish Archipelago. Norway lies along the western coasts, and, except in its southern portion, is confined to a narrow strip of land adjacent to the ocean; its most southern point, the Naze, is nearly in the parallel of 58° , and its northern extremity stretches to the latitude of the North Cape, the most northern limit of the European continent. The extreme northern part of the peninsula (beyond the Arctic circle) forms part of the country called Lapland, distinguished as Norwegian, or Swedish, Lapland, according as it lies within the limits of either of those territories.

The greatest length of the Scandinavian peninsula, from the North Cape to the southern extremity of Sweden, is about 1150 miles: the mean breadth of Sweden is about 200 miles, and that of the southern portion of Norway about 250 miles; but the greater part of the latter country does not exceed from 60 to 70 miles in average width. The total area of the peninsula is 292,700 English square miles, of which Sweden contains 170,240, and Norway 122,460. Sweden is therefore nearly three times as large as England and Wales, and Norway considerably more than twice their size.

(337). *Surface, Rivers, Lakes, &c.*—The mountains which occupy the western side of the Scandinavian peninsula have been described in Art. 28. They cover almost the whole surface of Norway, and great part of that of Sweden, and form in a large portion of their course the boundary between the two countries. But the eastern parts of Sweden, for a considerable distance inland from the shores of the Baltic and Gulf of Bothnia, are comparatively level, and the most southern province of that country is a low, flat, plain, belonging to the region of the great European lowland. In the whole of the southern part of the peninsula there is no eminence of 1000 feet in elevation.

The mountains of Norway are really high upland plains, indented on the land side by deep and narrow river-valleys, and towards the coast by innumerable *fiords*, or salt-water inlets. The western shores are lined throughout by chains of small and rocky islands, the principal of which are the *Lofoden group*, already described (Art. 44.).

On the eastern side of the peninsula the coast is less irregular, though here the inlets are numerous. Many parts of the Swedish coast are also fronted by groups of small islets, especially in the neighbourhood of

Stockholm and thence to the southward; and further out in the Baltic are the large islands of *Gothland* and *Oland* (Art. 46.).

Both in Sweden and Norway rivers and lakes are numerous (Arts. 36. and 40.). Few of the rivers are navigable for any distance inland, owing to falls and rapids which obstruct their course; but timber is floated down their streams. The *Glommen*, the longest river of Norway, is ascended by ships for a distance of 14 miles, where a considerable fall occurs. In Sweden, the river *Göta* is made navigable to Lake Wener, by the aid of an artificial cut which avoids the Falls of Trolhätta, a few miles below the lake.

The principal lakes of Sweden are those of Wener, Wetter, and Maëlar (Art. 42.). The largest lake of Norway is *Lake Miosen* (63 miles in length), which lies at an elevation of 420 feet above the sea, and the outlet of which is the river *Vermen*, a considerable affluent of the Glommen. But nearly every valley in Sweden and Norway contains one or more lakes, mostly long and narrow in shape, like those in the Highlands of Scotland. The small lake of *Lessöevark*, which lies on the summit of the Dovre-field, is remarkable as having a stream issuing from it at each end, one of which forms the river Logan and enters the Miosen Lake, while the other flows through the narrow valley of Romsdaal into the Atlantic Ocean, — thus forming a continuous water-channel, which in reality insulates the s. w. part of Norway.

(338.) *Climate, Productions, &c.* — In Sweden and Norway the winter occupies seven months of the year, during which time the ground is covered with deep snow, and the surface of the lakes and rivers forms a hard coating of ice; upon the frozen surface thus everywhere presented, the inhabitants travel with facility in sledges drawn by horses or by reindeer. The summer is short, but warm, especially so on the western shores of Norway, where the heat in July and August is often intense. A greater quantity of rain falls in Norway than in Sweden, but on the whole the air is generally dry and bracing, and the entire conditions of the climate suited to health and longevity.

The natural wealth of the Scandinavian peninsula consists in its mines, its forests, and its fisheries.

The metallic productions are chiefly iron and copper, distributed in various parts both of Sweden and Norway.

Among the most productive mines in the former country are those of Persberg, to the north of Lake Wener, which are dug into a mountain almost entirely composed of veins and beds of iron ore. The mines of Danemora (lat. $60^{\circ} 15'$, long. $17^{\circ} 50'$), near Stockholm, are also very celebrated. In the more northern part of the country, at Gellivara, beyond the polar circle (lat. $67^{\circ} 20'$) is a hill which forms a mass of the richest magnetic iron ore, and similar hills are found in many other parts of the peninsula. The annual amount of iron made in Sweden is about 90,000 tons, of which about 70,000 are exported.

The principal iron mines in Norway are found in the southern part

of the country. Like those of Sweden, the produce consists chiefly of magnetic ore, which is a principal cause of its superiority for the purpose of conversion into steel. An equally important cause lies in the fact that charcoal, or wood, is uniformly employed both in Sweden and Norway for the purpose of smelting, by which means carbon is supplied in a purer form, and one that is probably more capable of entering into chemical combination with the metal.

The silver mines of Kongsberg, in Norway (lat. $59^{\circ} 34'$, long. $9^{\circ} 40'$), yield but a limited produce. The copper mines of that country are of higher value. Those of Roraas (lat. $62^{\circ} 30'$ long. $11^{\circ} 17'$), at the eastern base of the Dovre-field, are important. Extensive copper-works are carried on in the valley of Kaa-fiord, near the northern extremity of the peninsula, and under the 70th parallel of latitude. The copper is smelted on the adjacent shore, and thence shipped to England. The copper-mines of Fahlun, in Sweden, near the river Dal (lat. $60^{\circ} 32'$, long. $15^{\circ} 40'$), are now less productive than formerly. Cobalt, plumbago, and lead, are likewise found in various parts of the Scandinavian peninsula. Coal occurs only to a limited extent (Art. 59.)

Forests cover a very large proportion of the surface of the peninsula ; in Sweden more than four-fifths of the entire country is estimated to be covered with wood, and the proportion in Norway is probably still larger. In the extreme northern part of the country, however, and also in the more elevated tracts, much of this is mere stunted birch and brushwood. The trees consist principally of beech, oak, maple, spruce-fir, Scotch-fir, aspen, and birch, — the former of which are confined to the lower latitudes. The most valuable of these for commercial purposes are the Scotch and spruce firs, the timber of which is largely exported.

Of wild animals, the bear and the wolf are the most formidable, but are chiefly confined to the northern parts of the country, and even there only frequent the lower valleys during the severity of winter. The badger is found all over the middle and south of Sweden ; foxes are numerous throughout the peninsula ; the lynx also occurs, and likewise the wolverine or glutton, though rarely. Of smaller animals, the lemming, which at intervals leaves its abodes in Lapland and proceeds in immense numbers to the cultivated districts, commits great devastation to the crops, eating up the corn and every sort of vegetation in its way.

The most remarkable of the domestic quadrupeds is the reindeer, large herds of which are met with in Lapland, where they constitute almost the sole wealth of the inhabitants, whom they supply both with food and clothing. The horses are small, but remarkably sure-footed and hardy, especially the Norwegian breed. Birds are numerous in species, but not as individuals : the long duration of winter renders it difficult for them to obtain sustenance, and necessarily keeps down the numbers both of these and other members of the animal kingdom. In Norway extensive tracts of country may be passed over with very few signs of animal life, especially among the feathered tribes. The most common of the game birds is the ptarmigan.

The seas, rivers, and lakes swarm with the greatest abundance of fish (Art. 75.), and the fisheries of the Lofoden Islands supply a large proportion of the ordinary food of the peasantry both in Sweden and Norway, besides a great quantity of the better kind which is exported to the

countries adjacent to the Mediterranean. The rivers in the northern part of Norway are much resorted to by visitors from our own islands, on account of the abundance of fine salmon which they contain.

(339.) *Inhabitants*.—The population of Sweden amounted, in 1850, to 3,482,000, and that of Norway (in 1855) to 1,490,000; being in the former an average of 19, in the latter only 10, inhabitants to the square mile. Norway and Sweden are, in fact, the most thinly-populated countries of Europe; and necessarily so, from the great extent of their mountainous tracts and barren moorlands. The inhabitants gradually become more scanty towards the north, and in Lapland the population is in even a less ratio than one to the square mile. Only about one-tenth of the whole population of either country reside in the towns; the large majority being scattered in small villages on the shores of the lakes and rivers, or at the entrances to the fiords of the western coast. In some cases the villages are isolated from the nearest dwellings by many miles of surrounding country, and the inhabitants have during the summer and autumn to lay up a stock of provisions for use during the long winter months.

The people of Sweden and Norway speak different dialects of a language which is radically the same. Books require to be translated from the one into the other, but the peasantry of each country have many expressions in common, and the language of either is generally intelligible to the neighbouring people. The Norwegian dialect has, however, a closer affinity to the Danish tongue than to the pure Swedish.

The Laplanders, who dwell in the northern parts both of Norway and Sweden, are few in number, and generally of small stature. They live chiefly in tents, and are clothed with the skins of the reindeer and other animals; fish forms a large part of their diet; their habits are frequently dirty and repulsive: but many of them are now partially engaged in agricultural or trading occupations, and in Norway they are stated to be gradually subsiding into the general mass of the population. There are also in the northern parts of the peninsula a small number of *Quaens* or natives of Finland, who have emigrated thither from their proper country (on the east side of the Baltic), and who have a peculiar dialect of their own: they are chiefly engaged in rendering assistance in mining and commercial pursuits.

(340.) *Industrial Occupations*.—In the countries of Scandinavia, *agriculture* is necessarily limited by the peculiar features of their formation and climate. Only a very small part of the soil either of Sweden or Norway is under cul-

tivation, but in Sweden a surplus of corn is raised: Norway, on the other hand, does not produce enough for the consumption of the inhabitants.

Wheat is only grown in the southern part of the peninsula, and its use is confined to the higher classes of the people; rye, oats, and barley, constitute the general crops; and the potatoe, especially in Sweden, is extensively cultivated. A great quantity of spirits is distilled from the various grains, and also from the potatoe, and corn-brandy is an article of extensive use in all the Scandinavian countries. Both in Norway and Sweden, the hop is cultivated in patches of ground among the gardens as high as the 64th parallel,—an evidence of their higher average temperature and greater summer heat than other countries in corresponding latitudes.

Fruits are not generally abundant; but in the most southern part of Sweden, grapes, mulberries, chestnuts, walnuts, and melons, will ripen in the open air,—apples, pears, plums, and cherries, as far north as 63°,—and gooseberries and other plants of similar kind several degrees further north. Altogether, in the southern parts of the peninsula, even to some distance beyond the 60th parallel, the features of vegetation during the summer months present a much less striking difference from that of our own country than the greater proximity to the frigid zone would lead us to suppose.

The pastures are extensive, and the dairy-produce of excellent quality. In the northern parts of the country, the peasantry remove their flocks (and with them their own habitations) to the higher grounds on the mountains during the summer months, in order to preserve as much as possible of the fodder raised in the lower valleys for use during the winter. Butter and cheese are both extensively made. In the northern provinces of Sweden, goats take the place of sheep, and are numerous reared in the woodland districts.

(341.) *Manufactures* are not pursued on a scale of any magnitude either in Sweden or Norway, and those carried on in the towns are chiefly in the hands of foreigners,—mostly natives either of England or Scotland. Linen, woollen, and cotton-works, sugar-refining, distilling, iron-founding, sail-cloth making, and the preparation of tobacco, are carried on to some extent; besides the various branches of industry connected with mining. But the peasantry of both countries spin flax and wool, and manufacture coarse articles of clothing for domestic use, in the long winter months, during which every kind of out-door work is suspended. The ordinary articles of furniture, with domestic implements of every kind, are thus made chiefly by the peasants them-

selves, whose wants are generally few and easily supplied : articles of luxury and ornament are imported from abroad.

(342.) *Commerce.*—Timber,—the produce of the mines, —and (in Norway) that of the fisheries,—are the articles of native wealth which the inhabitants of Scandinavia exchange for the manufactures of foreign countries and the luxuries of tropical regions. Of the mineral produce, iron and copper are the most considerable items.

Besides the above-mentioned articles of *export*, are tar, pitch, and turpentine, with — from Norway, skins and oil (chiefly cod-liver oil) — and from Sweden, grain (principally rye and oats).

The *imports* are sugar, coffee, tobacco (all of which are very extensively consumed both in Norway and Sweden), tea, wine, salt, leather, silk, hemp, and a variety of manufactured goods ; besides, in Norway, corn, flour, and vegetables. The import of articles of foreign clothing is strictly prohibited, with the view of encouraging the native manufacture ; but the woollen and linen cloths and silk goods of Britain are nevertheless largely obtained by smuggling, and are extensively used for the dress of the upper and middle classes. The countries with which the largest amount of trade is carried on are Great Britain, the United States, Brazil, France, and the maritime cities of Germany. Great part of the trade is in the hands of the British, who have established commercial dépôts for the purpose of working the mines at various places in Norway. But both the Swedes and the Norwegians (especially the former) possess considerable maritime enterprise, and carry on an active commerce in the export of timber, &c. Ship-building is extensively pursued at many of the ports, both on the Baltic and Atlantic shores.

(343.) *Internal Communication.*—The roads have been constructed with little regard to the conveniences of travelling, and (in Norway especially) pass over hill and valley at extraordinary inequalities of level, the natural rise and fall of the ground being left quite unaltered by art. In crossing the plateau of the Dovre-field the road rises to the elevation of 4000 feet above the sea. There are no public coaches, but communication is carried on by means of *stations* placed at certain intervals upon the principal lines of road, and at which the neighbouring farmers are obliged to provide horses for the use of travellers.

Steam-boats are established on all the principal lakes and such parts of the rivers as admit of navigation, both in Norway and Sweden, and assist greatly in keeping up the connection between the principal towns. During the summer a steamer proceeds from Trondheim (lat. 63° 20') northward along the west coast of Norway as far as Hammerfest, near the most northern limit of the continent, calling on the way at the various trading establishments upon the adjacent islands or the fiords of the mainland. Between the valleys at the northern extremity of the peninsula, and the town of Tornea at the head of the Gulf of Bothnia, the communication is maintained during the summer, partly by means of a light carriage drawn by reindeer across the pathless mountains, and partly by the dangerous descent, in an open boat, of the stream of the river Tornea, which is full of rapids.

Railways have not hitherto made much progress in the Scandinavian peninsula, and the rugged nature of its greater portion ill adapts it for their formation. In Norway, a line has been constructed between Christiania and the foot of Lake Miosen, passing along the valley of the Glommen river. In Sweden, an extensive undertaking of the kind, which will connect Stockholm and Göttenburg, upon the opposite sides of the peninsula, is in active progress, and some portions of it are finished.

There are no *canals* in Norway. In Sweden, the Göta Canal, which forms a navigable communication between the river Göta and the Baltic Sea, — passing through the great lakes of Wener and Wetter, and thereby avoiding the channel of the Sound, — is a highly important work. The falls of Trölhätta, which occur in the stream of the Göta a short distance below Lake Wener, are avoided by an artificial channel, with a series of locks, excavated from the solid rock.

(344.) *National divisions.* — Sweden forms three great regions, those of *Svealand* (or Sweden proper) in the centre, *Gothland* in the south, and *Nordland* in the north; these are divided into 24 governments, or *läns*, of which 8 are in Sweden proper, 12 in Gothland, and the remaining 4 in Nordland, which last includes the Swedish portion of Lapland. The principal towns in Sweden are enumerated below:—

Divisions.	Towns, with population.
Svealand, or Sweden proper - - - -	Stockholm, 100,000 — Upsal, 15,000 — Gefle, 8000 — Huddiksväl — Fahlun, 4000 — Danemora — Carlstad — Westeras — Nyköping, &c.
Gothland - - - -	Göttenburg, 30,000 — Uddevalla — Carlsrona, 12,000 — Malmo, 10,000 — Lund — Linköping — Norrköping — Jonköping — Calmar, 6000 — Motala — Wisby, &c.
Nordland - - - -	Sundsvall, 2000 — Hernosand, 2000 — Ostersund — Umea — Lulea — Tornea, &c.

(345.) *Stockholm*, the largest city in Sweden, and the capital of the monarchy, is built on some small islands, and the adjacent mainland, at the entrance of the Mælar Lake. The approach to it from the Baltic is through a labyrinth of numberless islets, upon one of which is the fortress of *Vaxholm*, the seaward defence of the city. The streets of Stockholm are mostly unpaved (excepting with round pebbles), and are generally narrow, crooked, and dirty, and the shops poor in appearance; but some of the public buildings are very fine, and the palace (situated on the central island) is distinguished by great architectural beauty. The Museum of Northern Antiquities at Stockholm is only second to that of Copenhagen in richness and interest.

Stockholm is the principal seat of the foreign commerce of the kingdom, but its manufactures are inconsiderable. Its gayest aspect is presented in winter, when the rivers and lakes are frozen, and their surface is covered with innumerable sledges, in which people of all classes pass to and fro, and when (as in all the cities of northern Europe) a great variety of amusements are practised upon the ice.

Upsal, 41 miles to the n. w. of Stockholm, is distinguished for its ancient University and its fine cathedral. The University, the principal in Sweden, has a library of 148,000 volumes, and contains magnificent collections in illustration of botany and mineralogy, the two

sciences most extensively studied in the country; the botanical collection was in part the work of Linnæus. *Gefle*, on an estuary to the north of Upsal, is a thriving town, with considerable trade in exporting timber, and iron-works in its neighbourhood. *Sundsvall* is a small town situated nearly half-way up the Gulf of Bothnia (lat. $62^{\circ} 20'$), and is a port of some importance for ship-building and the timber trade. A steamer passes during the summer, between Sundsvall and the town of *Tornea*, at the head of the gulf.

Göteborg, at the mouth of the river Göta, is, next to Stockholm, the most considerable trading town in Sweden, and has various manufactures of sail-cloth, cotton-spinning, iron-founding, sugar-refining, breweries, and tobacco-works. It is a regularly-built town, intersected by several canals, and contains an Exchange of recent erection, one of the finest buildings of the kind in Europe.

Carlsrona, situated on some small islands off the south coast of Sweden, is the chief naval arsenal of the country, and the principal station of the fleet; it has extensive docks, building-slips, and formidable batteries. *Malmö*, on the east shore of the Sound, nearly opposite to Copenhagen, is a place of considerable trade: a few miles to the north-east is the ancient city of *Lund*, the seat of a University, of inferior importance to that of Upsal.

The other towns in Sweden are only of local importance; they are mostly situated either on the shores of the lakes or on the sea-coast, and serve as outlets for the mineral produce, and that of the extensive forests. *Motala*, on the north-east bank of Lake Wetter, has extensive iron-foundries and metal-manufactures. *Visby*, on the west coast of the island of Gothland, which forms one of the provinces of Sweden, is an ancient and decayed place, now of little importance, though formerly a rich and populous city, and a great seat of trade during the middle ages.

(346.) *Norway* is divided into 17 districts, called *amts*, but is best known according to the three great geographical regions of Sonden-fields, Norden-fields, and Nordlandens, which coincide with the southern and northern portions of the great mountain-plains, or *fields*, and the extreme northern part of the country,—or the *southern*, *middle*, and *northern* tracts. Nordlandens contains the two districts of Nordland and Finmark, the whole of the latter of which, and great part of the former, belong to Norwegian Lapland. The principal towns and stations are as follow:—

Divisions.	Towns, with population.
Sondenfields - -	Christiania, 33,000 — Drammen, 8000 — Frederikstad, 2600 — Frederikshald, 5000 — Tonsberg — Frederiksvörn — Laurvig — Porsgrund — Arendal, 4500 — Christiansand, 12,000 — Stavanger, 7000 — Kongsberg, 4000.
Nordenfields - -	Bergen, 25,000 — Christiansund, 2000 — Trondheim, 14,000 — Roraa, 3000.
Nordlandens - -	Bodoë, 300 — Tromsøe, 1500 — Hammerfest, 1200 — Alten.

(347.) *Christiania*, the capital of Norway, is finely situated at the head of a long fiord to which it gives its name, with pine-clad hills on either hand. It is a well-built and thriving city, and has numerous

public structures, among which are a palace, a military academy, and a suite of buildings belonging to its University. Christiania is the chief seat of the foreign trade of Norway, and possesses a considerable quantity of shipping. Twenty-four miles to the s. w., on a branch of the Christiania Fiord, is *Drammen*, a considerable town, from which an immense quantity of timber is exported. Upon either side of the coast which forms the entrance to the Christiania Fiord are several small sea-port towns, all of which carry on considerable trade ; among these are *Frederickstad*, *Tonsberg*, *Laurvig*, *Frederiksvörn*, and *Porsgründ* : *Frederiksvörn* (s. w. of Christiania) is the naval arsenal of Norway, and is strongly fortified. Further to the s. w., in the direction of the Naze, are *Risöer*, *Christiansand*, and *Mandal*, also thriving sea-ports.

Bergen (lat. $60^{\circ} 24'$) stands on a tongue of land at the entrance to one of the fiords of the western shores of Norway, and is protected from the open sea by the islands which line these parts of the coast. It is a well-built town, and contains a cathedral, besides a college and several public libraries. Bergen has manufactures of tobacco and porcelain, with ropewalks and distilleries, but derives its chief importance from being the entrepôt of the fisheries of the country. The greater part of the fish caught off the Lofoden Islands and the northern coasts are taken to Bergen, whence they are exported to France and the Catholic countries bordering on the Mediterranean. — *Christiansund*, on an island considerably to the n. (lat. $63^{\circ} 8'$), also possesses extensive fisheries.

Trondhiem (or, as usually called in English, *Dronthiem*) is situated on the s. side of a considerable fiord, and is a neat and well-built town ; the houses are chiefly of wood, but brick is becoming more commonly used. It was the ancient capital of the country, and possesses a fine cathedral, in which the sovereigns are still crowned as kings of Norway. Trondhiem has considerable trade, and is the chief centre of inland traffic for the extensive provinces further to the north : it also forms the outlet for the copper produced in the mines of Roraas (Art. 338.).

On the coast to the north of Trondhiem are only a few stations, with wide intervals between, at which the produce of the fisheries, and skins from the interior, are collected, and at which some trade is carried on, greatly facilitated by the visits of the steamer during the summer season (Art. 343.). *Tromsøe*, on one of the islands off the coast of Finmark (lat. $69^{\circ} 40'$), and *Hammerfest*, on the island of Qualøe, still further to the northward (lat $70^{\circ} 40'$), are small towns, from both of which great quantities of oil, fish, and skins, are exported ; and, though situated far within the Frigid Zone, their inhabitants are neither devoid of the comforts, nor of many of the luxuries and elegancies, of civilised life.

Hammerfest is the most northern town in Europe, and within a short distance of the extreme limits of the continent : some miles to the southward, on a branch of the Altenfiord, are the extensive copper-works mentioned in Art. 338.

(348.) The government of Sweden and Norway is a limited monarchy. In Sweden there is an assembly called the *Diet*, which consists of four chambers, and shares the legislative power with the sovereign. In Norway the legislative assembly is called the *Storthing*, a body which possesses higher powers than the Swedish diet. The executive power in both countries is vested in the sovereign, but the laws and institutions

of Norway differ from those of Sweden, and are of a freer and more popular character.

The established religion both in Sweden and Norway is the Lutheran, from which there are very few dissenters. Upsal is the principal ecclesiastical town in Sweden, and is the seat of an archbishopric, subordinate to which are 11 bishoprics. Norway contains 5 bishoprics. Some of the parishes in the latter country are of vast extent, stretching over more than 300 miles in a linear direction, and in these thinly-inhabited tracts the minister has to travel at successive intervals, and by the aid of reindeer, through the different districts committed to his charge. The Laplanders, in the extreme northern parts of either country, are gradually becoming converted to Christianity, and very generally excel the other portion of the population in devotion to religious duties.

(349.) *Public Education* is in a more advanced state in Sweden than in Norway, but in both countries elementary instruction is extensively diffused. In the principal towns there are gymnasia, or high schools, which serve as a preparation for the Universities; of the latter, there are three, — those of Upsal, and Lund, in Sweden; and Christiania, in Norway. The Swedish Academy of Sciences, at Stockholm, is one of the most distinguished in Europe, and learning is cultivated with much ardour in most of the principal towns. Even in the small provincial towns on the distant coasts of Norway some knowledge of literature is very generally diffused, and a taste for reading is fostered by the leisure and in-door occupations of the long season of winter.

The army maintained by Sweden and Norway is small; the navy is more considerable, especially in the former country. Its chief stations are the towns of Stockholm, Göttenburg, and Carlsrona, — principally the latter.

The only foreign territory possessed by Sweden is the small island of St. Bartholomew, in the West Indies.

SECTION III. — RUSSIA.

(350.) *Boundaries, Extent, &c.* — Russia embraces all the eastern part of Europe, and stretches from n. to s. across the entire breadth of the continent. It is bounded on the north by the Arctic Ocean; on the west by Norwegian and Swedish Lapland, the Baltic Sea, and the dominions of Prussia, Austria, and Turkey; on the south by the Black Sea and Mount Caucasus, and on the east by the Caspian Sea, the river Ural, and the Ural Mountains. The Russian provinces stretch, indeed, beyond the general frontiers of Europe, both on the side of the Ural Mountains and the chain of Caucasus, and are continuous with the Asiatic territories of the empire.

In length European Russia extends more than 1700 miles, from the s. point of the Crimea to the shores of the Arctic Ocean, and rather more than that distance in its greatest

breadth, from the western limits of the Polish territory to the chain of the Ural Mountains. Its total superficial area exceeds 2,000,000 English square miles, more than half the entire dimensions of Europe, and about seventeen times as large as the whole group of the British Islands.

The coast-line of Russia is considerable, and embraces portions of the shores of three of the principal inland seas of Europe, besides the ocean on its northern frontier.

(351.) *Surface, Rivers, &c.*—Russia is chiefly a level country, and embraces by far the larger portion of the Great European plain, described in Art. 31. This plain is divided into three parts,—a northern, a western, and a southern region,—indicated by the respective courses of the rivers towards the Arctic Ocean, the Baltic, and the Black and Caspian Seas; but the slopes of these are very gradual, and the watershed is not marked by any striking natural features (Art. 34.). The province of Finland, in the north-west (to the north of the gulf of that name), is a rocky plateau, from 400 to 600 feet in elevation, full of lakes, and crossed by low rocky hills, the eastern offsets of the Scandinavian mountains. The chains of the Ural and Caucasus, which form the eastern and south-eastern borders of the great plain, have been described in Arts. 29. and 30.

The principal rivers are the northern *Dvina*, flowing into the White Sea; the *Neva*, the southern *Dvina*, and the *Niemen*, running into the Baltic; the *Dniester*, *Dnieper*, and *Kouban*, into the Black Sea; the *Don*, into the south of Azov; and the *Volga* and *Jaik*, into the Caspian Sea (Arts. 35—39.). The most considerable of these is the Volga, which drains the south-eastern slope of the great plain. The Danube, near its mouth, forms for a short distance the southern frontier of Russia, which it divides from the provinces of European Turkey.

The lakes of Russia are the largest in Europe, and are chiefly situated in the western and north-western provinces (Art. 42.): those of Ladoga, Onega, Peipous, Ilmen, Bieloe, and many of smaller size, are extensively navigated during the portions of the year in which they are free from ice.

(352.) *Climate: natural Productions.*—Extending in latitude from the 43rd parallel to beyond the Arctic Circle, Russia embraces nearly every variety of European climate. Its chief characteristic in this respect is a greater extreme both of heat and cold than is experienced in the more

western parts of the continent, and the contrast between the summer and winter temperatures becomes progressively greater with the advance eastward (Arts. 49, 50.).* But in the districts most liable to severe cold the air is generally dry and healthy.

The natural wealth of Russia is considerable, both in the mineral and vegetable kingdoms. The mineral productions have been described in Arts. 60. and 62.; coal is generally deficient, but its place is supplied by the immense forests which occur in most parts of the country. These are most abundant in the central districts, between the 52nd and 60th parallels, and consist chiefly of pines, fir, and other coniferous trees, among which the Scotch fir is the most numerous. Next to it in abundance is the common birch, which however is confined to particular localities, and is intermixed but little with the larger forests. The other principal trees are the lime, beech, maple, elm, alder, willow, ash, and (towards the southern belt of country) the oak; though, in comparison with the pines, these form but a small proportion of the woodland growth.

Altogether, it is estimated that the forests cover two-fifths of the entire surface of Russia. They are productive of the greatest advantages to the country: besides supplying the inhabitants with fuel, and serving as a shelter to the southern provinces from the cold winds of the north, they furnish in abundance timber, pitch, tar, potash, and turpentine,—all of them articles of extensive export, and by means of which the people

* It is in the level plains of the *Steppes* that the extremes of Russian climate are most strikingly experienced. "Hundreds of leagues may be traversed east from the Dnieper without variation of scene. A dead level of thin but luxuriant pasture, bounded only by the horizon; day after day the same unbroken monotony fatigues the eye. Sometimes there is the appearance of a lake, which vanishes on approach, the phantom of atmospheric refraction. Horses and cattle beyond number give some animation to the scene, so long as the steppes are green; but winter comes in October, and then they become a trackless field of spotless snow. Fearful storms rage, and the dry snow is driven by the gale with a violence which neither man nor animal can resist, whilst the sky is clear, and the sun shines cold and bright above the earthly turmoil. The contest between spring and winter is long and severe, . . . yet when gentler gales succeed, and the waters run off in torrents through the channels which they cut in the soft ground, the earth is again verdant. The scorching summer's sun is as severe in its consequences in these wild regions as the winter's cold. In June the steppes are parched, no shower falls, nor does a drop of dew refresh the thirsty and rent earth. The sun rises and sets like a globe of fire, and during the day he is obscured by a thick mist from the evaporation. In some seasons the drought is excessive: the air is filled with dust in impalpable powder; the springs become dry, and cattle perish in thousands. Death triumphs over animal and vegetable nature, and desolation tracks the scene to the utmost verge of the horizon, a hideous wreck."—*Mrs. Somerville's Physical Geography*, vol. i. p. 115.

are enabled to enter largely into commercial relations with the rest of Europe. The timber furnished by the large trees is of the most durable quality for house and ship-building, as well as household furniture and utensils. The Scotch fir supplies the peasantry with materials for constructing their cottages, boats, fences for enclosure, and with fuel; and it is from the ashes of this tree that the potash of Russia is principally obtained. An abundant supply of turpentine is collected from its roots by a very rude and simple method of distillation.

The birch is also largely consumed as firewood, and its bark serves to make cordage, fishing-nets, and sails for the boats used on the lakes, as well as for the purpose of tanning. Garden-mats are extensively made from the inner bark of the lime-tree, and are exported to Britain and other countries; and the same material is also made into ropes.

The brushwood and undergrowth consist principally of the hazel, dwarf-birch, alder, willow, and juniper; and, in some places, of various wild berries, among which the bilberry and cranberry are extensively used as food by the Russian peasants, and large quantities of the latter are exported to other countries. In some of these immense forests wild honey is obtained in great quantities, the bees making their hives in the trunks of aged and decayed trees: both the honey and wax thus supplied form articles of commercial exchange, and are largely exported.

All, or nearly all, the wild animals native to Europe exist in various parts of Russia (Art. 69.); in the north the reindeer is a source of wealth (as in the similar latitudes of the Scandinavian peninsula), and the bear, fox, lynx, otter, and other fur-bearing animals, supply abundance of skins, which are an article of extensive demand, and are collected by the Russian traders from the native tribes who dwell on the borders of the Northern Ocean. In the steppes of the south and south-east are immense numbers of horses and other cattle, mostly in a wild state. The camel of Asia has been introduced in the Crimea and the adjacent provinces. Fish abound in the lakes and rivers, and round the coasts, and the fisheries constitute an important branch of industry (Arts. 74—76.).

(353.) *Inhabitants.* — The population of European Russia (including Finland and Poland) amounted in 1851 to nearly 64,000,000, equal to an average of 32 to the square mile,—a proportion three times greater than that of Norway. The central districts, between the 50th and 57th parallels, are those most fully populated, especially the neighbourhood of Moscow, the ancient capital. The inhabitants of the northern provinces are few in number, and thinly scattered over large tracts of comparatively barren country.

More than five-sixths of the people of Russia belong to the Slavonic race, which extends over all the middle and western portions of the country. The Finlanders, the people of Russian Lapland, and the Samoides (on the eastern borders of the White Sea), are members of the Finnish stock of nations, and amount in all to about three millions. The

remainder of the population consists chiefly of the Tartars, in the south-east; and people of German or Teutonic race, who are numerous in the provinces bordering on the Baltic, and in the peninsula of the Crimea, in the south. Jews are very numerous in the western or Lithuanian provinces, where they carry on the greater part of the trade: there are altogether about 200,000 Jews in Russia.

The people forming the great majority of the Slavonian race are the Great Russians, or Muscovites, so called to distinguish them from the Russians proper, the Cossacks, and other kindred tribes, whose dialects of speech are different, though belonging to the same stock. They inhabit chiefly the central and most populous parts of the country.

There are numerous foreigners settled in all the commercial towns of Russia, among whom are many of our own countrymen, besides natives of the most distant parts of Europe and Asia. The great commercial fairs which are annually held in various places bring together immense and varied assemblages of people from all the principal countries of the Eastern hemisphere, the intermixture of whom—clad in their different costumes, and each speaking their own peculiar language, and exhibiting the habits and manners most familiar to them—produces a strange and grotesque effect.

(354.) *Industrial Pursuits.*—The *agriculture* of Russia is limited by the severity of the climate in its northern plains, the great extent of its forests, and, more than all, by the rude processes of its husbandry. The extent of land under cultivation bears but a small proportion to the whole area of the country, but the produce is nevertheless very considerable: and the abundant crops of grain, besides supplying the home consumption, afford a very large surplus for exportation. Some of the provinces in central Russia may be regarded in this respect as fit to become the granaries of Europe (Art. 93.).

The grains most generally cultivated are rye and oats, the coarse black bread made from the former of which—with vegetables and oatmeal, and sometimes salt fish—forms the principal food of the lower orders. In the central and southwestern districts (extending over the middle course of the Dnieper and embracing the tract called the Ukraine), wheat of the best quality is grown, and in some places millet and rice. Barley is also grown to some extent in the northern provinces. Hemp and flax are largely cultivated, and, besides supplying the principal manufactures of the country, furnish considerable articles of export. Both of these plants, as well as the potatoe, thrive as far north as the latitude of Archangel.

In the south of Russia much attention has of late been given to the cultivation of the vine and mulberry. The vine is grown with great

success in the fertile valleys of the Crimea, and is extending in the adjacent provinces on the borders of the Black Sea. In the Crimea and the districts adjoining the chain of Caucasus large plantations of the mulberry have been formed, and the rearing of the silk-worm is extensively practised. There are, besides, in southern Russia a great variety of fruits and vegetables, many of them indigenous to the soil; and in summer the country is covered with a profusion of wild flowers and aromatic herbs. Hops and also tobacco are grown; besides rhubarb, poppies, and several medicinal herbs and plants useful in dyeing and in the preparation of leather.

Cattle are numerous in nearly every part of Russia, especially in the southern and south-eastern provinces; their hides form a considerable article of export, and the tanning of leather is a characteristic branch of Russian industry. Sheep are reared to a great extent, and large quantities of wool are exported.

(355.) *Manufactures.*—The artizans of Russia exhibit great skill and ingenuity in their metal-works, which are extensively carried on in various parts of the country (Arts. 60. and 62.). Every branch of industry connected with mining is pursued with ardour, and the working of the mines is under the general direction and encouragement of the government. The founding of cannon and making of fire-arms are carried on to a great extent, and the large village of *Zlata-oust*, in the heart of the Ural Mountains (lat. $55^{\circ} 11'$, long. $59^{\circ} 38'$), is the seat of highly important manufactures of various articles of use and ornament; in many of these the greatest ingenuity and the most exquisite beauty of workmanship are displayed, especially in the process of inlaying one metal with another (or *damascening*, as it is properly termed). Sword-blades, daggers, &c., are thus made of the most finely tempered steel, and ornamented with the costly materials of gold and platinum.

But the manufactures of Russia are generally unimportant, though they have advanced considerably of late years, and every effort is made on the part of the government to encourage their development by prohibiting the import of such articles as can compete with those of Russian workmanship. Coarse linen and hempen fabrics, as sail-cloth, &c., are the most extensively made, and the various branches of the woollen, cotton, and silk manufacture have been introduced into the principal towns. For the two latter of these the raw material is imported. Still, however, the chief supply of the finer manufactured articles is derived from abroad. Coarse woollen fabrics are woven by the peasantry for domestic use.

The distillation of corn-brandy, or whisky, is an extensive and lucrative branch of industry, and this liquor is in almost universal use. Leather (both morocco leather and that called Russian leather) is prepared with peculiar skill, and the best kinds are highly valued for use in book-binding, for which purpose they are exported in considerable quantity. The peculiar odour and colour of Russia leather are due to a kind of oil, extracted from the birch.

(356.) *Commerce*.—The foreign trade of Russia consists in the exchange of her native produce—tallow, hides, corn, hemp, furs, and timber—for the luxuries and finer manufactures of other countries. A larger proportion of it has hitherto been carried on with Great Britain than with any other nation; and, next in extent, with Germany and the United States of America. Prior to the breaking out of the Anglo-French and Russian war, in 1854, British shipping was extensively engaged in the Baltic trade of Russia, her tallow and other raw produce being very largely consumed in this country.

The principal *imports* of Russia are raw cotton and cotton-twist, indigo, cochineal, madder; wines and other liquors; olive-oil; sugar, coffee, and various colonial produce; with some of the finer kinds of manufactured goods. Tea is extensively imported by the overland caravan route through the Asiatic provinces of the empire; and although its price is more than twice as great as that supplied to the nations of western Europe by maritime traffic, yet the importation of the latter is strictly prohibited. Great quantities are, notwithstanding, procured by contraband traffic across the Prussian frontier. The *exports* are tallow, flax, hemp, wheat and other grains, linseed, timber, potash, hides and skins, bristles, leather, furs, wool, oil, wax, honey, copper, and iron; with cordage, sail-cloth, and other articles of coarse manufacture.

The principal seats of maritime trade are Petersburg, Riga, and Revel, on the Baltic; Odessa, on the Black Sea; Archangel, on the White Sea; and Astrakhan, on the Caspian. The Baltic commerce is by far the most considerable, and Petersburg alone possesses half of the entire foreign trade of the empire.

(357.) *Inland Communication*.—The roads are, in general, mere tracks quite unfit for the use of carriages; but between some of the principal towns good lines of road have been constructed. These are mostly formed by laying the trunks of trees close together, across the line of road, and filling up the interstices with a layer of earth or sand.

A railway has for some time been in use between the capital and the palace of Czarskœ-selo, 15 miles to the south; and a much more considerable line has since been completed between Petersburg and Moscow (a direct distance of 390 miles).

The inland water-communication is very extensive, and is greatly assisted by the artificial channels which unite the river-basins of its oppo-

site seas (Art. 90.). A large portion of the inland trade is carried on at *fairs*, held annually in many of the principal towns; the most extensive seat of this traffic is the town of *Nijni Novgorod*, situated at the junction of the Oka with the Volga, where the fair lasts during the months of July, August, and part of September, and is attended by a vast concourse of traders from nearly all parts of Asia and eastern Europe, who bring with them the productions of their own countries, and carry back in exchange the commodities of western Europe and America.

(358.) *National divisions*.—Russia is divided into 50 *governments*, besides the province of *Finland*, and the portion of the former kingdom of *Poland* which still preserves the name of that country. Many of the Russian provinces are as large as other European kingdoms, and the single government of Archangel, which stretches along the shores of the Arctic Ocean, alone embraces a larger area than the whole of the Austrian Empire. The province of Finland is subdivided into eight, and the territory still called Poland into five, governments. The other governments are subdivided into circles.

Five of the Russian provinces are adjacent to the shores of the Baltic, and may be distinguished as *the Baltic provinces*.—The middle and northern parts of the country constitute *Great (or Central) Russia*, which includes nineteen governments, and contains the ancient capital, and the original seat of Russian power.—*Little Russia* is to the south of the latter, and embraces four inland provinces, watered by the Dnieper and the Donetz.—*West Russia* embraces nine governments, and consists of provinces which formerly belonged to the kingdom of Poland, including the territory still called by that name.—*Southern Russia* comprises the provinces which extend from the borders of Austria and Turkey eastward to beyond the banks of the Don, and forms five governments.—The ten remaining governments, lying along the courses of the Kama and Volga, from the Ural Mountains to the shores of the Caspian, form *East Russia*. Two of the provinces of East Russia (Perm and Orenburg) extend across the chain of the Ural Mountains, and are partly situated within the limits of Asia.—Besides these are Circassia and other territories lying along the northern face of Mount Caucasus, the possession of which is still contested between the Russians and the native tribes of mountaineers.

The names of the Russian provinces, with the principal towns in each, are enumerated in the following Table:

1. BALTIC PROVINCES.

Provinces.	Towns, with population.
St. Petersburg - -	St. Petersburg, 532,000 — Cronstadt, 40,000 — Czarskœe-selo.
Esthonia - - -	Revel, 15,000 — Hapsal, 1500.
Livonia - - -	Riga, 70,000 — Dorpat, 6000.
Kourland - - -	Mitau, 13,000 — Libau, 6000.
Finland - - -	Helsingfors, 16,000 — Abo, 12,000 — Uleaborg, 6000 — Viborg, 3500 — Sveaborg—Nystad.

2. GREAT RUSSIA.

Archangel - - -	Archangel, 24,500 — Mezen, 2000 — Onega, 1800.
Olonetz - - -	Petrozavodsk, 8000 — Olonetz, 2800.
Vologda - - -	Vologda, 14,000 — Veliki-Oustoug, 14,000.
Kostroma - - -	Kostroma, 10,000.
Jaroslavl - - -	Jaroslavl, 25,000 — Uglitch, 6000.
Novgorod - - -	Novgorod, 15,000 — Staraja-Russa, 6000.
Pskov - - -	Pskov, 8000.
Tver - - -	Tver, 20,000 — Torjok, 15,000 — Riev, 10,000.
Smolensk - - -	Smolensk, 11,000 — Viasma, 12,000.
Moskva - - -	Moscow, 374,000 — Kolomna, 6000 — Borodino.
Vladimir - - -	Vladimir, 4000 — Murom, 4500.
Nijnii Novgorod -	Nijnii Novgorod, 32,000 — Arzamas, 9000.
Tambov - - -	Tambov, 20,000 — Kozlov, 8000.
Riazan - - -	Riazan, 9000 — Skopin, 6000.
Toula - - -	Toula, 54,000.
Kalouga - - -	Kalouga, 35,000.
Orlov - - -	Orel, or Orlov, 32,000 — Eletz, 16,000 — Bolkhov, 10,000 — Briansk, 6000.
Koursk - - -	Koursk, 30,000 — Bielgorod, 10,000.
Voronej - - -	Voronej, 25,000.

3. LITTLE RUSSIA.

Tchernigov - - -	Tchernigov, 7000 — Nejin, 16,000 — Glukhov, 8000.
Kiev - - -	Kiev, 62,000 — Bogoslavl, 6000
Poltava - - -	Poltava, 9000 — Kobylaki, 7000 — Kremenchoug, 17,000.
Kharkov - - -	Kharkov, 29,000 — Akhtyrka, 13,000 — Bielopolie, 9600

4. WEST RUSSIA.

Vilna - - -	Vilna, 52,000 — Kowno, 4000.
Vitebsk - - -	Vitebsk, 15,000 — Polotsk, 6000.
Moghilev - - -	Moghilev, 16,000.
Minsk - - -	Minsk, 15,000 — Bobruisk, 5000.
Grodno - - -	Grodno, 16,000 — Brzesc-Litevski, 4000.
Bialystok - - -	Bialystok, 10,000.
Volhynia - - -	Jitomir, 28,000 — Bertitchev, 50,000 — Staro-Konstantinov, 4000 — Dubno, 8000.
Podolia - - -	Kamienetz, 16,000 — Mohilev, 16,000.
Poland - - -	Warsaw, 164,000 — Kalisch, 11,000 — Lublin, 12,000 — Kielce, 5000.

5. SOUTHERN RUSSIA.

Kherson - - -	Odessa, 107,000 — Kherson, 30,000 — Elizavetgrad, 12,000 — Nikolaef, 28,000.
Bessarabia - - -	Kichinev, 64,000 — Akerman, 14,000 — Choczim, 2000 — Bender, 4700.
Taurida - - -	Bakhtchiseraï, 10,000 — Karasu-bazar, 15,000 — Simferopol, 8000 — Eupatoria, 12,000 — Kertch, 10,000 — Kaffa, 7000 — Sevastopol.
Iekaterinoslavl -	Iekaterinoslavl, 12,000 — Nakhitchvan, 13,000 — Taganrog, 17,000.
Country of the Don Cossacks - - -	Tcherkask, 15,000 — Novo Tcherkask, 11,000.

6. EAST RUSSIA.

Perm - - -	Perm, 10,000 — Solikamsk, 5000 — Bissersk.
Viatka - - -	Viatka, 7000.

Provinces.	Towns, with population.
Kazan - - - -	Kazan, 56,000—Tchistopol, 6000.
Simbirsk - - - -	Simbirsk, 13,000—Syzran, 7000.
Penza - - - -	Penza, 12,000—Saransk, 8000.
Orenburg - - - -	Orenburg, 12,000—Ufa, 10,000—Uralsk, 15,000—Zlata-oust.
Samara - - - -	Samara, 5000.
Saratov - - - -	Saratov, 62,000—Volsk, 11,000—Sarepta, 4000.
Astrakhan - - - -	Astrakhan, 45,000—Krasnolarsk, 7000.
Stavropol- - - -	Stavropol, 6000.

(359.) *St. Petersburg*, the capital of the Russian Empire, is built partly on some low marshy islands at the mouth of the river Neva, and partly on the adjacent mainland. Only one permanent bridge crosses the Neva, but the communication between the different quarters of the city is kept up, during the summer, by bridges of boats, and in the winter by means of the ice.

St. Petersburg is generally a regular and well-built city, and in the number and vast size of its public edifices may be regarded as the most splendid of the European capitals. The principal public buildings are those connected with the various departments of government, and are mostly situated in the Admiralty quarter, which lies along the south bank of the Neva: the banks of the river are here lined with stupendous granite quays. The Imperial palace is a large and imposing pile of buildings, in which is contained a valuable library, the third in Europe in point of magnitude; there are several other palaces, besides numerous fine churches and other structures. The whole circuit of the city is about 18 miles.

Both the foreign and inland trade of *St. Petersburg* is very considerable (Art. 356.): vessels of large size, however, are unable to come up to the city, but discharge their cargoes at *Cronstadt*, a strong fortress and naval arsenal, situated on an island in the Gulf of Finland, about 16 miles to the west of the capital. *Cronstadt* commands the approach to *St. Petersburg*, and is the great naval station of Russia in the Baltic: it has extensive docks, and is the seat of an active commerce.

Within a short distance from *St. Petersburg* are several fine palaces, the occasional residence of the Court. The most splendid of these are *Czarskœ-selo*, about fifteen miles to the south, and *Peterhoff*, the summer palace of the Czar, situated a few miles to the westward of the capital, upon the narrower portion of the Gulf of Finland, and on its southern shore. The magnificent gardens of *Peterhoff*, which are adorned in the most costly and elaborate manner, entitle it to be regarded as the Versailles of Russia.

Riga, at the head of the gulf of that name, and on the banks of the *Dvina*, near its mouth, is an important commercial city, with great trade in the export of hemp, corn, and timber. It forms the chief outlet for the produce of the countries watered by the *Dvina*, and is the resort of a vast quantity of shipping, both foreign and native. — *Dorpat*, in the same province, is the seat of a celebrated University. — *Revel*, on the south side of the entrance of the Gulf of Finland, is a place of considerable trade.

Helsingfors, the capital of Finland, situated on the north side of the Gulf, is a flourishing commercial town, and the seat of a University. The fortified works of *Sveaborg*, situated on several small islands in front of *Helsingfors*, were attacked by the allied British and French fleets, in

1855. Sveaborg forms one of the chief naval arsenals of Russia. — *Abo*, further to the westward, and the former capital of Finland, has lost much of its importance since a great fire, by which it was nearly destroyed, in 1827, but still possesses some ship-building and trade. To the northward of *Abo* there are several small seaports, upon the shores of the Gulf of Bothnia. Amongst them are *Nystad*, *Vasa*, *Uleaborg*, and others.

(360.) *Moscow*, the ancient metropolis of the empire, is a large city, built on the banks of the river *Moskva**, in the centre of the great plain of eastern Europe. A large part of *Moscow* was destroyed by fire in 1812, during the invasion of Russia by Napoleon, but it has since been rebuilt, and greatly enlarged and embellished. In general appearance *Moscow* resembles an Asiatic rather than a European town, and has large open spaces within the circuit of its walls. Its inner enclosure or citadel, called the *Kremlin*, about 2 miles in circumference, is crowded with palaces, churches, monasteries, arsenals, museums, and other public buildings, exhibiting every variety of taste and every order of architecture, but in which the Tartar style, with gilded domes and cupolas, forms the predominant feature. *Moscow* is the centre of a great inland commerce. It is still the favourite residence of the native nobility, and is venerated by the people at large as the ancient seat of Russian greatness. The village of *Borodino*, which gave its name to the costly victory gained by the French in 1812, is 70 miles west of *Moscow*, on a small tributary of the *Moskva* river.

Nijni (or *Lower*) *Novgorod*, at the junction of the *Oka* and *Volga*, is a large and well-built town, noted for its great fair, which is annually attended by upwards of 100,000 strangers (Art. 357.). The other city of *Novgorod* (in the province of that name, at the northern extremity of *Lake Ilmen*), formerly known as *Great Novgorod*, was three centuries ago one of the largest cities in Europe, and the capital of an independent state, but the greater part of it has now fallen into ruin, and it is of little present importance.

Archangel, on the right bank of the northern *Dvina*, near its termination in the *White Sea*, is an important commercial town, the emporium of the foreign trade of the northern provinces. Corn, hemp, flax, timber, and other native produce, are exported; and ship-building, the manufacture of matting and cordage, and the preparation of tar and pitch, are carried on: but the harbour of *Archangel* is closed by the ice for nine months of the year.

Vologda, *Jaroslavl*, *Tver*, *Smolensk*, *Tambov*, *Toula*, *Orel*, and *Koursk*, are all places of very considerable inland trade, which they carry on chiefly by means of the extensive river navigation. *Tambov* and *Orel* are both great centres of agricultural produce. *Toula* has some mining industry and metal-works, but is less important in this respect than formerly.

(361.) *Vilna* (or *Wilna*), a large town seated on the *Vilina*, a tributary of the *Niemen*, is a place of great trade, and was the former capital of *Lithuania*, an extensive territory which embraced several of the

* The *Moskva* is a tributary of the river *Oka*, one of the chief affluents of the *Volga* (Art. 39.).

provinces of Western or Polish Russia. It was also the seat of a flourishing University, now diminished in importance. Among its inhabitants are a great number of Jews, who carry on the chief trade of the province. The other towns in Western Russia are mostly of small size, but many of them have considerable inland trade.

Warsaw, the ancient capital of Poland, is situated on the left bank of the Vistula, on the opposite side of which is the suburb of Praga, connected with it by a bridge of boats. It has numerous fine public buildings, among which are a cathedral and many literary and scientific establishments. But, with the downfall of Polish independence, Warsaw has lost its former importance, though it still possesses considerable inland trade. It is a great station for the Russian army.

(362.) *Kiev*, on the right bank of the Dnieper, is the seat of a University, and is regarded as a sacred city by the Russians, having been one of the most ancient and venerated seats of their religion and empire. It has numerous convents and churches, with gilded domes and spires, which give it an imposing and splendid appearance when seen from a distance ; but the streets are narrow and crooked, and the houses (as in most Russian towns) built chiefly of wood. Kiev is the seat of one of the great commercial fairs. *Poltava*, on a river of the same name (one of the smaller tributaries of the Dnieper), is memorable for the battle fought in its neighbourhood in 1709, when the army of Charles XII. of Sweden was destroyed by the Russians, under Peter the Great.

Odessa (on the north-western shores of the Black Sea, a short distance E. of the mouth of the Dnieper) is a handsome and well-built town, the southern emporium of Russian commerce. It was founded so recently as 1796, but has rapidly risen into great commercial importance. An immense quantity of the corn grown in the fertile provinces of the south is annually exported, and also a great deal of wool. Among the inhabitants of Odessa are many foreigners, comprising Italians, Greeks, Germans, Polish Jews, with a few French and English ; and its port is visited by the shipping of all nations.

Nikolaef, near the mouth of the river Bong, to the north-eastward of Odessa, possesses extensive docks and ship-building yards, and is an important naval arsenal. — *Kherson*, further to the eastward, lies on the E. bank of the Dnieper : its commercial importance has declined before that of Odessa, but it possesses some trade, and is consecrated to Englishmen by the memory of Howard, who died there in 1790.

(363.) THE CRIMEA, which has filled so important a place in recent history, is an extensive peninsula lying between the waters of the Euxine and the Sea of Azov. Its area is about ten thousand square miles. Nearly three-fourths of this extent belong to the flat and dreary plain of the steppes : the remainder, comprising the entire range of the south-eastern coast, is a mountain-region, with enclosed plains and valleys that are distinguished by great beauty and fertility. The highest summits found in this portion of the peninsula exceed five thousand feet (Art. 30.). The entire peninsula is included within the Russian province of Taurida.

Perhaps no part of Europe exhibits a greater variety of vegetable produce than the Crimea : in the valleys of its southern mountain-tract, besides the vine and the mulberry, the olive, fig, pomegranate, and

orange tree, all flourish in the greatest profusion. But the northern portion of the peninsula is only suitable for pasturage, and contains immense herds of sheep, horses, and black cattle, thousands of which often belong to a single individual among the Tartar tribes by whom it is occupied. The buffalo has here been domesticated and yields a rich milk, and camels are numerous.

The Crimea came into the possession of Russia towards the close of the last century ; previously to which it had belonged to Turkey, and, prior to the Turkish rule, to native Tartar sovereigns, or Khans. The town of *Bakhchiserai*, in the interior of the peninsula, was the Tartar capital. *Simferopol*, also in the interior, and further to the northward, is the capital of the Russian government of Taurida. *Karasu-bazar*, another inland town, is further to the eastward.

The most important place in the Crimea is *Sevastopol*, situated on the south-western coast of the peninsula, upon an extensive inlet, which forms a good and safe harbour. Sevastopol was founded in 1780, upon the site of a Tartar village named Akhtiar, and was made the chief naval station of Russia in the Black Sea. Strong forts were erected to protect the entrance of the harbour, and the town has been defended on its land side by similar works, of later construction. Prior to the siege of Sevastopol, undertaken by the united English and French armies in 1854, the town contained upwards of 40,000 inhabitants.

Balaklava, a small port to the s. by e. of Sevastopol, at a distance of seven miles, is upon the southern coast of the peninsula.

Eupatoria, upon the western coast, is forty-five miles to the northward of Sevastopol. It was in the neighbourhood of Eupatoria that the combined landing of the English and French armies in the Crimea took place, in September, 1854. On the line of march thence towards Sevastopol occurs the small stream of the Alma, which was victoriously passed by the Allies, who were opposed by a Russian force strongly entrenched upon its southern bank, on the memorable 20th of September. The well-contested engagements of Balaklava and Inkermann (the latter deriving its name from some heights adjacent to Sevastopol on the eastward) occurred during the progress of the siege, the former on October 25th, the latter on the 5th November, 1854.

Kaffa, or *Theodosia*, is a small sea-port town upon the south-eastern coast of the Crimea. *Kertch*, which fell into the hands of the English in 1855, is further to the eastward, upon the strait which forms the entrance to the Sea of Azov. Upon the northern coast of the last-named sea is *Taganrog*, which commands considerable trade, as the chief outlet for the countries watered by the river Don.

(364.) *Kazan* (760 miles s. e. of St. Petersburg) is situated on rising ground, a short distance to the east of the Volga. It is the principal seat of the trade of the Siberian provinces, and has some considerable manufactures, besides being the seat of a University.—*Zlata-onst*, in the Ural Mountains, close upon the borders of Asia, has extensive works in metal (Art. 355.).

Upon an island in the Volga, about 45 miles above its mouth, is the town of *Astrakhan*, the chief emporium of the trade of the Caspian Sea, and the centre of the maritime commerce of Russia with Turkestan, Persia, and the other countries of the East. Astrakhan has considerable manufactures of cotton, silk, morocco leather, shagreen, tallow and soap-

work, and dyeing ; and is the chief seat of the important fisheries of the Caspian and the river Volga (Arts. 74. 76.).

(365.) The government of Russia is a despotic monarchy, in which all power is vested in the Emperor, or *Czar*, who has the absolute control of all the functions of the state, which are exercised by ministers whom he appoints. The people are divided into different classes, the lines of demarcation between which are strictly defined. The nobles hold their titles by hereditary descent, and are generally possessed of large estates ; but the great majority of the people are *serfs*, or slaves, who are in most cases attached to the soil. They are in all other respects at the absolute disposal of their masters, and may be bought, sold, or exchanged, with little more ceremony than so many head of cattle. There are forty-two millions of serfs in Russia, more than two-thirds of the total population of the empire.

The religion of the great majority of the people of Russia is that of the Greek Church, which is the established form of worship. The people of Finland and the adjacent districts of Russian Lapland, and also many of the inhabitants of the Baltic provinces, are Lutherans ; and the inhabitants of Lithuania and the other Polish provinces (including Poland proper) are mostly followers of the Roman Catholic religion. In the south-east, the numerous people of Tartar race are generally Moham-medans. The Samoiedes and other semi-barbarous tribes on the shores of the Arctic Ocean are idolaters, but are in gradual progress of conversion to Christianity.

Public education, so far as the great mass of the people are concerned, scarcely exists in Russia. The serfs are universally buried in ignorance and superstition, and their faculties simply exercised upon the supply of their daily wants. But some attention is paid by the government to the establishments of schools for the various classes of the town populations, and of colleges and other institutions for the higher orders. The military schools occupy the first rank in importance, and are extensively dispersed over the different provinces of the empire ; there are also schools for the training of naval officers, and the instruction of workmen in the navy, in the principal sea-port towns. Schools for instruction in various pursuits connected with the mines are established in St. Petersburg and the principal mining districts, and receive support from government. The universities are those of St. Petersburg, Moscow, Dorpat, Vilna, Kharkov, Kazan, and Kiev, of which Dorpat is the most celebrated.

The public establishments for the pursuit of science are numerous, and are liberally endowed and patronised by the government. The Academy of Sciences, at St. Petersburg, is the principal, and there are learned societies, public libraries, and museums, in many of the principal towns.

The military force of Russia is very great, and the army amounts to about 800,000 men. The highest claim to distinction is obtained by military service, and all honorary titles and rewards conferred by the Emperor are of a military character. A considerable naval force is maintained in the Baltic and Black Seas, and some also in the Caspian. But the Russian navy is altogether of recent creation, and its efficiency in open and active warfare has not hitherto been tested. The mercan-

tile navy is not considerable, and the greater part of the foreign trade is carried on by the shipping of other nations.

(366.) In the extreme south-eastern part of Russia, and on the borders of Asia, is the country called *Circassia*, which extends along the northern side of the chain of Mount Caucasus, from the Black Sea and Sea of Azov on the west to about the meridian of 45° eastward. Thence to the Caspian Sea the country forms the regions called *Lesghistan* and *Daghestan*, part of the former of which extends across the mountains into the Asiatic side of the chain. These countries are now, after a contest of thirty years' duration (terminated in 1859) with the mountain-tribes who constitute their population, subjected to Russian dominion.

The people of these wild mountain-districts, though sometimes called by the general name of Circassians, consist in reality of numerous distinct tribes, among whom various dialects are spoken. The *Tscherkesses* (or Circassians, properly so called), are found towards the western parts of the chain; more eastward, towards the course of the Terek, are the *Tschetschenzes* and other clans, against whom the later efforts of Russian warfare were principally directed.

The mountaineers of Circassia are distinguished by rude and predatory habits, depending greatly on the produce of the chase, and paying less regard to the cultivation of their fields than to the rearing of cattle. They dwell in villages placed among the high mountain-valleys, the houses being formed of hurdles covered with clay and thatched with straw. Forty or fifty of these huts, arranged in a circle, form a village, in the centre of which the cattle are placed for safety during the night, while the horses roam at liberty through the fields. Each tribe of mountaineers has its own separate government, consisting in an assembly of the elders of the tribe, controlled by the general voice of the whole of its members as expressed in popular assemblies, and directed by chiefs or heads of ancient families: several tribes occasionally unite for the purpose of common action, as in the case of the warfare with the Russians. In religion they are Mohammedans.

The rivers Kouban and Terek — the former flowing into the Black, the latter into the Caspian Sea (Arts. 38, 39) — formed during a long term of years the southern limit of the country actually possessed by Russia in this direction, and the fortress of *Vladi-kaukass*, on the right bank of the Upper Terek, which commands the communication across the mountains through the important pass of Dariel (Art. 33.), constituted the head-quarters of the Russian army. The country immediately to the north of the Kouban and the Terek forms the Russian province of Caucasus, the capital of which is the fortified town of *Stavropol*, to the east of the Upper Kouban. *Anapa*, a small port and fortress on the north-eastern coast of the Black Sea, lies a short distance to the southward of the Kouban. Several other ports, of inconsiderable note, occur on the line of coast which extends thence southward to the Turkish border.

CHAPTER VIII

THE COUNTRIES OF SOUTHERN EUROPE.

SECTION I. — TURKEY.

(367.) *Boundaries and Extent.* — Turkey embraces a large territory in the south of Europe, including part of the most easterly of its three peninsulas, and a considerable portion of the adjoining mainland. It is bounded on the north by the Hungarian provinces of Austria, and the south-west part of Russia; on the east by the Black Sea; on the south by the Sea of Marmora, the Archipelago, and the kingdom of Greece; and on the west by the Mediterranean, the Adriatic Sea, and the Austrian provinces of Dalmatia and Croatia.

In its greatest extent, from north to south, Turkey measures about 700 miles, and its extreme dimensions from west to east are nearly the same; but the *average* length and breadth are considerably less, and its southern portion is narrowed into the peninsula lying between the Archipelago and the Ionian Sea. The superficial area of Turkey is about 210,000 English square miles. Its maritime frontier is considerable, and embraces parts of the shores of the Black Sea, the Sea of Marmora, the Archipelago, the Ionian Sea, and the Adriatic: the harbours on the latter sea are not generally good, but on other parts of the coast are many excellent anchorages.

Turkey is crossed in an east and west direction by the system of the Balkan Mountains, and their westward prolongation, the Dinaric Alps, described in Arts. 22 and 23. These naturally divide the country into two distinct regions; 1st, the provinces to the *south* and *south-west* of the mountains, and belonging to the basin of the Mediterranean, — and 2nd, the territories to the *north* of the mountain-chains, which belong to the basin of the Danube. The latter, again, are further divided into two portions by the course of the river Danube.

1. The Turkish provinces to the south of the Balkan and the Dinaric Alps consist of *Roumelia*, which extends from the Black Sea on the

east to the chain of Mount Pindus on the west, and lies along the Sea of Marmora and the Archipelago;—*Thessaly*, a small territory to the south-west of the above, and lying between the shores of the Archipelago and Mount Pindus; *Albania*, an extensive province to the westward of Roumelia and Thessaly, situated between the chain of Mount Pindus and the high mass of Sharra-tagh on the east, and the Adriatic Sea on the west;—and *Herzgovina*, to the north-west of Albania, lying between the principal chain of the eastern Alps and the Austrian province of Dalmatia, which latter tract divides it from the immediate shores of the sea.

2. The provinces to the north of the mountains, and limited northward by the course of the Danube or its tributaries, are *Bulgaria*, which extends from the Black Sea nearly to the meridian of 22° E. long.:—*Servia*, a large territory to the west of the above:—*Bosnia*, further to the westward:—and a part of *Croatia*, adjacent to the Austrian territory of that name. The northern frontier of Croatia, Bosnia, and part of Servia, is formed by the course of the river Save; the remainder of Servia, and the whole of Bulgaria, are bounded on the north by the main stream of the Danube.

To the north of the Danube are the two provinces of *Wallachia* and *Moldavia*. The former of these lies between the Danube and the chain of the Southern Carpathians: the latter stretches along the eastern slope of the Carpathians proper, and extends thence, across the lower course of the river Pruth, to the shores of the Black Sea, including within its limits the delta of the Danube.

(368.) *Surface*.—The provinces situated to the south of the Balkan are generally hilly, and their level districts of comparatively small extent (Art. 22.). In Roumelia (the eastern part of which was the ancient Thrace, and the western part, Macedonia), some of the river-valleys expand into considerable plains, as that of Adrianople, watered by the river Maritza (the ancient *Hebrus*). Thessaly is a fine valley, watered by the river Selembria (the ancient *Peneus*), which has forced its way through a deep gorge in the mountains near the coast. This narrow passage was the ancient *Vale of Tempe*, bounded on either side by the declivities of Mounts Olympus and Ossa (now Lacha and Kissovo).

Albania and Herzgovina, limited on the east and north-east by the chains of Mount Pindus and the Dinaric Alps, are the most mountainous portions of Turkey. Their interior forms in many places a high plateau, elevated more than 2000 feet above the level of the sea. The mountain-knot of Sharra-tagh has its summit covered with snow nearly all the year round, and many parts of the chain of Pindus are of scarcely inferior elevation. The valleys by which this region is intersected are generally narrow in

their upper or eastern portions, but widen towards the west, and in the middle part of Albania a plain extends along the shores of the Adriatic for a distance of nearly ten miles inland. This plain is bounded on the south by the range of Mount Khimera (the *Acro-ceraunian Mountains* of the ancients), an offset of the main chain of Pindus; the range terminates at Cape Linguetta, a bold promontory at the eastern entrance of the Adriatic. In northern Albania and Herzegovina the mountain-chains are immediately adjacent to the coast, and rise by a succession of terraces towards the interior, the only openings being those by which the river-valleys communicate with the sea.

The portion of Albania which is to the south of Mount Khimera nearly coincides with the ancient province of Epirus. Middle and Northern Albania fall within the limits of the ancient Illyricum.

Bulgaria and Wallachia, between the Balkan and the Carpathian Mountains, belong to the plain of the Lower Danube (Art. 32.), and are generally level, except in the neighbourhood of their northern and southern frontiers. Some parts of Lower Wallachia, immediately adjacent to the river, are overspread with extensive marshes, which render the climate unhealthy. Moldavia, which adjoins Wallachia on the north, is generally of similar character to that province, and spreads from the foot of the Carpathians into the great level region of eastern Europe.

The upper or southern parts of Servia, Bosnia, and Turkish Croatia, form high plateaus, partially intersected by the offsets of the Balkan and the Dinaric Alps; but towards the courses of the Save and the Danube they spread out into extensive and fertile plains. Near the eastern frontier of Servia, towards Bulgaria, is the subordinate chain of the North Balkan Mountains, which advance close to the banks of the Danube, immediately opposite to the southern offsets of the Carpathian system, and narrow the valley of the river into the defile of the Iron Gate (Arts. 22. 38.).

(369.) *Rivers and Lakes.*—The river Danube drains all the middle and northern provinces of Turkey, and forms the great channel of communication between those portions of the empire. It enters the Black Sea by four principal mouths, which enclose between them an extensive and swampy delta. To the eastward—about thirty miles distant from the two more northerly outlets—is Serpent's Island.

The most southern channel passes through the considerable lake of *Raseln*, above 160 square miles in area, but only from six to nine feet deep.

The two northernmost channels of the Danube are those most extensively used by vessels, but all the mouths of the river are more or less obstructed by sandbanks, and the steamboats avoid the difficult and tedious navigation of its lower course by landing goods and passengers at the village of *Cherno-woda* (at the point where the Danube makes a great bend to the northward), whence a road leads across the intervening isthmus to the port of *Kustendij*, on the Black Sea, a distance of thirty-eight miles.

Within the limits of Wallachia the Danube receives the waters of the Aluta, a considerable tributary, and in Moldavia those of the Sereth and the Pruth. On the south side it is joined by the Morava, which, with its tributary streams, waters nearly the whole of the province of Servia.

The rivers to the south of the mountain-region are of short courses, and not generally capable of navigation : the Maritza, which is the most considerable, admits the passage of small vessels as high as Adrianople (106 miles) during the winter and spring, but in summer they can only ascend a portion of that distance. The Maritza, the Struma, the Vardar, and the Selembrja, flow into the Archipelago ; the Drin, the Boyana, and numerous smaller streams, into the Adriatic. The course of the Drin (the principal branch of which has its origin in the Lake of Ochrida, at the western foot of Mount Pindus) exceeds 200 miles, — a greater length than that of any other river entering the eastern side of the Adriatic. The Boyana, further to the northward, flows from the lake of Skutari into the sea, and is navigable for small vessels for a distance of fifteen miles above its mouth.

The principal lakes are those of Skutari, Ochrida, and Ianina, all three situated in Albania — the two former in the middle and northern portions of that province, the last-named in Southern Albania. The lake of Skutari is about 145 square miles in area, and abounds in fish. Lake Ochrida, about 95 square miles, lies at a considerable elevation above the sea, and is surrounded by mountains. Besides these, are many of smaller size situated in the mountainous districts, as well as some of considerable magnitude immediately adjacent to the north bank of the Danube, and formed by the occasional overflow of its waters.

(370.) *Climate, Productions, &c.* — The temperature varies greatly with the comparative elevation and aspect of the different provinces. In the provinces to the north of the Balkan, especially those on the Lower Danube, the climate approximates, in its extremes of heat and cold, towards that of the eastern parts of Europe. In Moldavia, the winters are, in general, intensely cold, and the summers correspondingly hot. The eastern part of Roumelia also experiences great extremes of temperature, and at Constantinople the climate is exceedingly changeable, — the thermometer

falling many degrees within a single hour, according as the north or the south-west wind prevails. But in general, the provinces to the south of the mountains, and bordering on the Archipelago or the Adriatic, enjoy a warm and delightful climate, such as that which characterizes the southern zone of Europe.

On the coast of Albania a north-east wind called *Bora*, which brings down the cold air from the summits of the mountains, is dreaded not so much on account of its violence as of the suddenness with which it sets in. The south-east wind, or *sirocco*, which generally blows for three days in succession, raises the temperature of the air, and is often accompanied by much rain (Art. 53.).

A great difference exists between the vegetation of the provinces within the basin of the Danube and those to the south of the central mountain-chains. In the former, the forests consist of the pine, the beech, the oak, lime, and ash; besides apple, pear, cherry, and apricot-trees, which cover the whole of extensive districts. In the southern provinces the above trees are confined to the sides of the mountains, while the lower grounds exhibit the plane, maple, carob, almond, sycamore, walnut, and chestnut-trees, besides the box-tree, the myrtle, the laurel, and numerous evergreens (Art. 68.). To the south of the 40th parallel the olive becomes the most common fruit-tree, the fig and the mulberry are abundant, and the orange thrives in the sheltered plains. In the plain of Skutari (south of the lake of that name), the most fertile part of Albania, all the fruits met with in the southern countries of Europe are grown in abundance, as well as every kind of grain, with the exception of rice.

The vine is grown over the whole of Turkey, but the fruit produced in the northern provinces is inferior in quantity of saccharine matter to that obtained on the shores of the Archipelago.

The southern base of the Balkan is remarkable for the exuberance of its vegetation, which consists of gardens of roses, jasmine, and wild lilac, with vineyards, and forests of all kinds of fruit-trees: the plain of Adrianople is distinguished for the abundance of its roses, from which the celebrated *attar* (or *otto*) of roses is distilled.

The extensive forests give shelter to numerous animals, among which are wild boars, bears, wild oxen, deer of various kinds, mountain-goats, lynxes, wild cats, foxes, and wolves. A species of wolf, smaller than that of the hills, frequents the plains bordering on the Danube, and finds shelter in the marshes or among the reeds. The partridge and the bustard abound in the valleys, and game is plentiful in the mountainous districts of Albania. Of domesticated quadrupeds the sheep and the goat are the most numerous, the latter especially in Albania and the other mountainous districts: large herds of oxen are reared in the provinces bordering on the Danube, and horses are numerous in Moldavia and in Thessaly. — The mineral produce has been mentioned in Art. 54. There are mines of silver and sulphur in the mountains near the Lake of Ochrida, in Albania, but they are not worked.

(371.) *Inhabitants*. — The population of European Turkey is supposed to amount to 15,500,000, — an average of only

73 inhabitants to the square mile. This comparative scantiness of population, in a country which possesses natural capabilities as great as any part of the European continent, is partly to be accounted for by the extremely bad government to which it has for many centuries been subjected, and the total absence of any encouragement to the development of industry,—and is in a great degree owing to the almost constant wars in which Turkey has been engaged, and the continual drain upon her male population for the purpose of filling the ranks of the army.

The Turks (or *Osmanlee*, as they prefer to call themselves) are the ruling people, but constitute only a small fraction of the population of European Turkey (not more than a fourteenth part of the whole number). They are most numerous in the province of Roumelia, but are found in the towns in most parts of the empire, and are also numerous in some particular districts of Albania and the other provinces to the south of the mountains.

The majority of the inhabitants of Turkey belong to the Slavonic race, among which are the people of Bulgaria, Servia, Bosnia, Croatia, and Herzegovina. The Wallachians, and part of the inhabitants of Moldavia, are a distinct race, and speak a language different from that of the Slavonic nations, and, for the most part, of Latin origin. The native inhabitants of Albania are a race called Arnauts; they are a tribe of rude and warlike mountaineers, strong, active, industrious, and patient of fatigue, and are distinguishable from their neighbours alike in appearance, manners, and language.

Besides the above are the modern Greeks, a people of mixed origin, who are numerous in the provinces to the south of the Balkan, and are found also in Wallachia and Moldavia; the Armenians, the most industrious of the inhabitants of Turkey, who perform most of the labour in the towns, and many of whom return to their native country (in Asia), after spending some years in Constantinople and other seats of trade;—Jews, who are very numerous in the towns;—and foreigners from various nations of Europe, who are comprehended under the general name of *Franks*.

There is reason to believe that the purely Turkish part of the population is diminishing in number, while the inhabitants of the Slavonian provinces, and also the Greek and Armenian population, are steadily on the increase.

(372.) *Industrial pursuits: Agriculture.*—Cultivation is not extensively carried on, and is only applied to a very small proportion of the soil. In the southern provinces, the quantity of grain raised is not enough to supply the consumption, and some corn is imported. But in the provinces within the basin of the Danube, large crops of maize, wheat, barley, and millet, are raised, besides tobacco and a great variety of fruits. In Servia, tobacco, hemp, and flax, are grown in

large quantities, and extensive tracts of country are entirely covered with apple, pear, and cherry trees. The cotton-plant and the olive flourish in the country to the south of the Balkan, and the province of Thessaly produces in abundance oil, wine, cotton, silk, and wool.

But the rearing of cattle is more important than the culture of the soil. In Wallachia the meadows and pastures are of excellent quality, and large herds of oxen and flocks of sheep are fattened upon them. These supply the inhabitants of Constantinople and other towns with food, and also furnish the materials of manufacture. Sheep likewise abound in the western parts of Roumelia and in Thessaly, and goats in the mountainous tracts. In Albania, the meadows and pastures are excellent, though of limited extent; sheep and goats constitute the chief wealth of the inhabitants of this province, and furnish its mountaineers with their principal means of subsistence.

(373.) *Manufactures* are not pursued to any considerable extent in Turkey, though fine silk and cotton fabrics are made with great skill at Constantinople, Saloniki, and a few other towns. Coarse woollen cloths are also made in the country, but the chief supply of ordinary manufactured articles is derived from abroad,—a great proportion of them from Britain. Leather of superior quality is prepared at Gallipoli, Constantinople, and other towns; and works in metal are carried on at various places in Bulgaria and the other provinces adjacent to the central mountain region, particularly at Shoumla (in the eastern part of Bulgaria), where brass and iron are manufactured to a considerable extent, and with great skill.

(374.) *Commerce*.—The chief imports of Turkey are corn, and a great variety of manufactured articles and colonial produce. The exports consist principally of raw materials, with some of the finer articles of oriental taste and skill, derived chiefly from the Asiatic provinces of the empire,—as fine carpets and shawls from Asia Minor, perfumes and drugs from the more distant countries of the East.

The various articles of export embrace wool, wine, tobacco, cotton; currants, almonds, figs, dates, and other fruits; olive-oil, wax, honey, opium; morocco leather, carpets, raw and spun silk, camlet; valonia, madder, gum, attar of roses; with horses, swine, oxen, and both raw and tanned hides.

The trade carried on between Turkey and England is very considerable, and Constantinople serves as a sort of station through which the manu-

factures of Britain are supplied to the different portions of the Turkish empire, and also to the various countries of Western Asia. The principal agents in carrying on the foreign trade of Turkey are English, French, Armenian, and Greek merchants: the more wealthy Armenians generally act as bankers, money-changers, jewellers, physicians, &c., while the lower classes of the same people are engaged as labourers. The quantity of British shipping which annually enters the ports of Turkey is very considerable; Austrian, Russian, and Greek vessels are also largely engaged in the same traffic, those of the latter nation being, however, generally of very small tonnage. Constantinople is the chief seat of the foreign trade of Turkey, and next to it in commercial importance is Saloniki.

(375.) *Internal Communication.*—Very few of the roads in Turkey are practicable for carriages, and beasts of burden (horses and asses, or, in the mountainous tracts, mules) are generally employed both for the conveyance of passengers and of goods. On the most frequented lines of road are placed caravanserai, or *khans*, which are large buildings with an open court-yard in the centre, for the accommodation of travellers. The government communication between the different provinces is kept up by travelling couriers, called Tatars, for whose use horses are kept in readiness at successive stations on the great lines of road. But in mountainous tracts, or in swampy districts, the roads are frequently almost impassable.

There are neither canals nor railways, but in the Danubian provinces considerable traffic is carried on by means of the rivers, and the Danube is the great highway of this portion of the empire (Art. 368.).

(376.) *National Divisions.*—For administrative purposes the Turkish empire is divided into large provinces, called *eyalets*, each of which is governed by an officer called a vizier; these are subdivided into *sandjacks*, or *pashalicks*, each under the government of a pasha. But these divisions are often fluctuating, and the country is best known to European geographers under the names of the provinces which have been already enumerated (Art. 366.).

The principal towns in each of these are as follow :

Provinces.	Towns, with population.
Roumelia - - -	Constantinople, 700,000 — Adrianople, 100,000 — Demotika, 8000 — Saloniki, 70,000 — Philippoli, 30,000 — Eski-Sagra, 18,000 — Tatar-bazardjik, 10,000 — Islivno, 20,000 — Uskup, or Skopia, 10,000 — Bitoglia, or Monastir, 15,000 — Gallipoli, 17,000 — Enos, 7000.
Thessaly - - - -	Yeni-shehr (Larissa), 20,000 — Trikala — Fersala, 6000.
Albania - - - -	Skutari, 40,000 — Ianina, 36,000 — Ochrida, 2500 — Prisrend, 20,000 — Jacova, 18,000 — Valona, 10,000 — Antivari, 3000 — Arta, 7000 — Prevesa, 4000 — Parga.
Herzegovina - - -	Mostar, 7300.
Croatia - - - -	Banialouka, 15,000 — Bihacz — Novi.
Bosnia - - - -	Bosna-serai, 60,000 — Zvornik, 14,000 — Trawnik, 8000 — Yeni-bazar, 8000.
Servia - - - -	Belgrade, 30,000 — Kragojevatz — Pristina, 10,000.
Bulgaria - - - -	Sophia, 50,000 — Shoumla, 50,000 — Ruschuk, 30,000 — Silistria, 20,000 — Sistova, 20,000 — Nikopoli, 10,000 — Widin, 20,000 — Varna, 14,000.
Wallachia - - -	Bukharest, 60,000 — Krajova, 8000 — Slatina.
Moldavia - - -	Jassy, 20,000 — Galatz, 36,000 — Ismail, 22,000 — Niamtz.

(377.) *Towns.*—*Constantinople*, the capital of the Turkish empire, occupies one of the finest natural situations in the world. It is built upon a tongue of land, of triangular shape, which lies at the west side of the southern entrance of the Bosphorus, the channel that leads into the Black Sea. On the northern side of the city is a branch or offset of the Bosphorus, called the Golden Horn, which forms a magnificent harbour; and beyond this are the suburbs of Pera, Galata, and Tophana, the two former of which are the principal seats of trade, and the residence of nearly all classes of foreigners.

The ground upon which Constantinople is built rises gradually from the sea, and commands a magnificent prospect over the opposite coasts of Asia. The general aspect of the city, when approached by water, is of the most striking and beautiful description, exhibiting to view a crowd of domes and minarets, backed by the dark foliage of the cypress and other trees which shade the extensive cemeteries beyond the walls. But the interior is a perfect labyrinth of narrow, winding, steep, and dirty streets, without plan of any kind. The houses are, for the most part, built of wood, and present dead walls to the street, light and air being (as in all oriental towns) derived from interior courtyards. The most striking of the public buildings are the Seraglio, or Imperial Palace, situated at the eastern extremity of the city, and bathed on either side by the waters of the Bosphorus and the Golden Horn; and the church of St. Sophia, built by the Emperor Justinian, in the sixth century, as a Christian temple, but converted into a Mahomedan mosque: there are a vast number of other mosques, many of which display great architectural beauty.

The internal trade of Constantinople is carried on in covered bazaars (not in open shops, as in most European towns), and in these a great variety of splendid and gaudy articles of attire are displayed. Different bazaars are appropriated to the sale of particular articles. Baths are numerous, and are extensively used by all classes of the inhabitants.

The whole circuit of Constantinople, not including the suburbs on the north side of the harbour, is about 12 miles. The principal inhabitants of the city, within the walls, are the Turks, together with the Armenians, Greeks, and Jews, who have particular quarters allotted to them; the Franks reside in Pera and Galata, on the opposite side of the harbour, or in the numerous adjacent villages. There are also a great number of Jews among the inhabitants of the suburban districts, as well as within the walls of the city.

The shores of the Bosphorus are lined on either side with numerous villages, castles, and forts, throughout the whole extent of the channel: immediately opposite to Constantinople is *Scutari*, situated upon the coast of Asia, and forming the starting point of the roads leading to the Asiatic provinces of the empire. Scutari is regarded as a suburb of the Turkish capital, though the arm of the sea which flows between is 5750 feet (or rather more than a mile) in width.

Adrianople, the second city in Turkey, stands near the banks of the Maritza, in the midst of a fine plain. It has some manufactures of leather, and considerable inland traffic. Like all Turkish towns, it has a magnificent appearance when viewed from a distance, but on entering it the streets are found to be narrow, crooked, and dirty. It contains numerous mosques, one of which is distinguished for its splendour, and

its bazaars are well stored with merchandise. Below Adrianople is *Demotika*, also on the banks of the Maritza, and a place of considerable trade. *Enos*, at the mouth of the river, forms the port of Adrianople, but is of little importance.

Saloniki (the ancient Thessalonica), on the shore of the Archipelago, at the head of a gulf to which it gives name, is, next to Constantinople, the most commercial town in European Turkey, and has manufactures of leather, cotton, carpets, silk, and metal goods. To the east of the Gulf of Saloniki a peninsula advances into the waters of the Archipelago, and afterwards divides into three smaller peninsulas. The most eastern of these forms Mount Athos, a narrow ridge, rising to 6349 feet above the sea. Its sides are covered with Greek monasteries. The village of *Filibi* (a few miles N. W. of the town of Kavalla, on the N. shore of the Archipelago) marks the site of the Philippi of Greek and Roman story, and the scene of the defeat of Brutus and Cassius, B. C. 42.

Gallipoli, on the north side of the channel of the Dardanelles, is noted for its manufacture of morocco leather. *Philippoli*, or *Filibeh*, (90 miles W. N. W. of Adrianople), on the upper course of the Maritza, is a considerable town, and possesses manufactures of silk, cloth, and cotton. Several of the other towns in Roumelia are of considerable size, and have some manufactures, mostly either of leather or of metal goods.

(378.) *Yenishehr* (the ancient Larissa), the principal town in the province of Thessaly, has manufactures of silk, cotton, leather, and tobacco, and is celebrated for a red dye: it is delightfully situated on the banks of the Selembria, in the midst of a fertile plain. The small town of *Fersala*, 25 miles to the southward, represents the ancient Pharsalus, the scene of Cæsar's memorable victory over Pompey, B. C. 48.

Ianina, in the southern portion of Albania, stands on the western shores of the lake to which it gives name, and is chiefly inhabited by Greeks and Jews.—*Skutari*, in the northern part of the same province (near the S. E. shores of Lake Skutari), is situated in a highly fertile district, and has considerable trade. Its merchants export the native produce of the district, consisting of wool, bees'-wax, hides, hare-skins, tobacco, and dried fish, and import in return numerous manufactured goods and colonial produce, which are afterwards disposed of at the great fairs held in the towns of the adjacent provinces.—*Valona* (or *Avlona*), on the coast of Albania, to the north of Cape Linguetta, is also a seat of trade.

(379.) *Bosna-serai*, the principal town in the province of Bosnia, has an industrious population employed in the manufacture of arms, various iron and copper articles, horse-hair bags, morocco and other kinds of leather, and cotton and woollen stuffs. It is the centre of the inland commerce of this part of Turkey, and extends its commercial relations to the neighbouring provinces of Hungary and southern Germany. A majority of the inhabitants are Turks, but the Jews carry on the chief part of the trade.—The other towns in Bosnia (and also in the adjacent provinces of Herzgovina and Croatia) are small, but many of them are places of considerable inland trade, and in some the inhabitants are engaged in mining and works in metal.

(380.) *Belgrade*, in the nearly independent principality of Servia, is situated at the confluence of the Save with the Danube, in a position of great natural importance. It was long the chief fortress and arsenal of

the Turkish empire on its northern frontier, and still ranks as the Turkish capital of the province. Belgrade has lost the commercial importance which it formerly enjoyed. The town of *Kragojczatz*, 60 miles to the southward, in the centre of the province, is the seat of the native government of the principality. Servia has no towns of any considerable magnitude, but its population are actively engaged in various branches of agricultural and commercial industry, and the whole province has of late years made great and rapid progress in wealth and importance.

(381.) *Sophia*, the capital of Bulgaria, is a large town situated amongst the northern declivities of the Balkan, and lying on one of the principal lines of road across the mountains. It has considerable inland trade, and supplies the northern provinces with the various foreign articles imported through the port of Saloniki. — *Shoumla*, in the eastern part of the province, and also situated on the line of one of the mountain-passes of the Balkan, has important works in metal, and is noted for the commercial industry of its inhabitants. It is likewise a fortress of great strength. — *Varna* is an important fortress on the shores of the Black Sea. — *Widin*, *Nikopoli*, *Sistova*, *Ruschuk*, *Turtukai*, and *Silistria*, are commercial and fortified towns on the south bank of the Danube. Opposite to Turtukai, on the n. bank of the river, is the village of Oltenitza, the scene of a victory gained by the Turks over the Russian forces, in 1853.

In Wallachia, *Bukharest*, the capital, is situated in the midst of a vast marshy plain, on the banks of a navigable tributary of the Danube. It is a wretchedly-built town, and has no manufactures, but carries on considerable trade, exporting the native produce of the province in return for manufactured goods received either from Germany, by way of the Danube, or from the Austrian province of Transylvania, between which and Wallachia the communication is carried on by the mountain-passes across the chain of the southern Carpathians.

Jassy, the capital of Moldavia, on a small tributary of the river Pruth, is a badly-built town, but a great amount of trade is carried on at the fairs held there (as all over the east of Europe) for commercial purposes. — *Galatz*, on the north bank of the Danube, constitutes the chief emporium of commerce for this province and the adjacent parts of Wallachia.

Throughout Turkey (as, indeed, over the greater part of Russia and northern Europe) the towns are almost entirely built of wood, and are hence liable to great devastation upon occasion of the outbreak of any fire. All the cities of Turkey, and especially the capital, Constantinople, have suffered from this circumstance, large portions of them having on various occasions been wholly destroyed during conflagrations; and from the frequent recurrence of these, Constantinople has been said to be burnt to the ground and to rise again from its ashes within a period of about every fifteen years. After such occurrences, however, they are rebuilt without any attempt at improvement, or any effort towards preventing the recurrence of the calamity.

(382.) Of the islands belonging to Turkey, *Candia* (the ancient Crete), to the south of the Archipelago, is the only one of considerable

magnitude (Art. 47.). Its natural fertility is very great, and among its productions are olive-oil, silk, wine, raisins, wool, carobs, valonia, wax and honey, oranges, lemons, and various other fruits. The hills are covered with forests, among which are numerous animals, including wild boars and wolves, and the wild goat.

The inhabitants of Candia are about 158,000 in number, two-thirds of whom are Greeks, the rest chiefly Turks. Wheat, barley, and oats are grown, but not in sufficient quantity for the consumption of the island : flax and cotton are also cultivated. The pastures are good and cattle abundant, but their exportation is prohibited. The principal manufactures are those of soap, leather, and spirits ; the soap made in Candia is highly esteemed in the Levant, and fetches a high price in the markets of Trieste. British and other manufactured goods are imported, but the amount of trade is very inconsiderable. The roads in the interior are wretchedly bad, and scarcely passable even by mules.

The small towns of Candia, Retimo, and Canea, all on the north side of the island, are the commercial ports ; and the first-mentioned, Candia (which has about 12,000 inhabitants) is regarded as the capital. The harbour of Kalos Limenas, on the south coast of the island, represents the *Fair Havens* of St. Paul's journey from Cæsarea to Rome ; that of Lutro, further to the west, corresponds to the *Phenice* of the same memorable voyage (Acts, xxvii. 8, 12.).

The other Turkish islands within the limits of Europe are Thaso. Samothraki, Imbro, and Lemno, with several of smaller size, all situated in the northern part of the Archipelago.

(383.) The government of Turkey is a despotic monarchy, the whole power being vested in the sovereign, who is usually styled the *Sultan* or *Grand Seignior*. The principal officer of state (or prime minister) is styled the Grand Vizier, and the government of the different provinces of the empire is administered by Pashas. Great tyranny and injustice have until a recent period prevailed in most departments of the administration, particularly in the collection of the revenue, in which the officers placed in charge of the different provinces were accustomed to practise every kind of extortion, especially upon the Christian and Jewish inhabitants, and indeed upon all classes who are not Moham-medans. The results of this misgovernment are seen in the decreasing population of many parts of the empire, large tracts of the most fertile country being allowed to go out of cultivation, and to lie entirely waste, owing to the absence of any encouragement or protection to the industry of the people. The Asiatic provinces of the empire are, however, worse in this respect than those of European Turkey, in which the Slavonic population predominate, and have secured the enjoyment of many rights and privileges foreign to the system of Turkish rule.

Servia, Wallachia, and Moldavia, are in great measure independent of Turkish authority, and are ruled by native governors, hitherto subject, in the case of the two latter provinces, to a large amount of Russian influence. Servia (which embraces an area of more than 18,000 square miles, with a population of 1,000,000) owns merely a nominal subjection to Turkey, and is really a sovereign principality, with a native ruler of its own choice. It has of late made great advances in civilisation, and is a rapidly improving state, fast rising into European importance.

The Turks are followers of the Mohammedan religion; but the majority of the people of European Turkey, including all the Slavonic population, are members of the Greek Church. All classes of the inhabitants who are not Mohammedans are stigmatised by the Turks as *rayahs*, or infidels.

In their general demeanour the Turks are grave, solemn, and taciturn, and they have a high repute for integrity in commercial transactions. In their dress, and in many of their customs, they differ strikingly from the people of any other European country, and display abundant evidence of their Asiatic origin. Loose and flowing garments have hitherto supplied the place of the more closely-fitting attire of western nations, but in this respect many changes have been made of late years, and in Constantinople the robe and turban of the Turk have in a great measure been supplanted by the ordinary dress of the Frank population. Some vigorous attempts have also been made to introduce European methods of instruction and other usages of western nations, but, though attended in some respects with a certain measure of success, these innovations have not made any essential change in the condition of Turkey, which has for a long while past been declining in strength and importance.

Learning is cultivated by certain classes of the population, chiefly in connection with the duties of the Mohammedan religion, and confined for the most part to the elucidation of its doctrines; but the great mass of the people are almost wholly uninstructed.

(384.) On the borders of Albania and Herzgovina, and adjacent on the west to the Austrian province of Dalmatia, is the small territory of *Montenegro*,* which embraces an area of about 760 English square miles. It is a high and mountainous country, lying amongst the ranges of the Dinaric Alps, and the natural strength of its situation has enabled its inhabitants to maintain their independence of Turkish power. The people embrace several tribes of hardy mountaineers, who form a sort of confederacy under the government of a bishop of the Greek Church, called the *Vladika*, who has authority both in civil and military affairs. The total population of the republic of Montenegro is about 107,000, including both the Montenegrins proper and the neighbouring tribes of mountaineers who have joined the confederacy. They cultivate the ground to some extent, and raise crops of maize and potatoes, besides other vegetables; but their chief dependence is on their numerous flocks of sheep and goats. Their surplus produce (including smoked mutton, skins and coarse wool, cheese, tallow, bacon, bees'-wax, and live stock) is for the most part disposed of at the neighbouring Austrian town of *Cattaro*, whence they obtain in return, arms and gunpowder, wine, spirits, salt, and various manufactured articles. The capital of the republic, and the residence of the *Vladika*, is *Zettinie* (situated about 9 miles to the south-eastward of *Cattaro*), which is only a mountain-village, not containing more than twenty houses. The

* *Monte-negro* is properly the Italian name of this district; by the Turks it is called *Kara-tagh*, and by the native mountaineers themselves *Zernagora*: all of these names signify *Black Mountain*, a designation derived from the forests which formerly covered the whole country, and which are still extensive.

road between Cattaro and Zettinie, although the principal commercial route of the country, is a mere mountain-path, not practicable in all places even for beasts of burden.

SECTION II. — GREECE.

(385.) *Boundaries and Extent.* — The modern kingdom of Greece lies to the south of Turkey, and embraces the remainder of the eastward peninsula of southern Europe. It is bounded on the north by the Turkish provinces of Thessaly and Albania, and on the three other sides by the waters of the Mediterranean. The greatest extent of the mainland from N. to S. is about 205 miles, and from E. to W. about 165 miles. Including the numerous islands in the Archipelago which belong to it, the total area of Greece is about 15,200 square miles, — equal to half the size of Scotland, and a little more than twice the dimensions of Wales.

The coast-line of Greece is very considerable, and embraces a great number of good harbours. On the west side, the Gulf of Corinth (or Lepanto) — a long, narrow, arm of the sea — nearly divides the peninsula of Morea from the other part of the country, and is only separated from the Gulf of Egina, on the east coast, by the narrow isthmus of Corinth (Art. 19.).

(386.) *Surface, Islands, &c.* — Greece is naturally divided into three portions : — *Northern Greece* (or Livadia), to the north of the Gulf of Corinth ; — the *Morea*, connected with the mainland by the Isthmus of Corinth ; — and the *Islands*, scattered over the greater part of the Archipelago.

The surface of the whole country is mountainous ; the plains are of very small extent, and lie on the immediate banks of the rivers, or along the sea coast. Northern Greece is traversed by ranges which lie generally in an east and west direction. The interior of the Morea forms a table-land, the mountains surrounding which are prolonged towards the south into three smaller peninsulas ; the centre of these contains the high summit of Mount St. Elias, and terminates in Cape Matapan (Arts. 22, 87.).

The rivers have necessarily short courses, and none of them are navigable. Many of the streams lose themselves in the ground, and, after preserving for a time a subterranean course, re-appear at a considerable distance. This is a consequence of the hollow and cavernous formation of many parts of the country. There are some lakes of small size in the Morea, but the largest body of inland water is Lake Topolias, in Northern

Greece, which receives the waters of a large tract of country, and communicates with the sea by subterranean channels. In winter it is sometimes 15 miles long by 10 broad, but its size varies greatly, and in summer it is reduced to a mere swamp, overgrown with reeds.

Of the islands of Greece, the principal are Eubœa, Kuluri (the ancient *Salamis*), Egina, Hydra, and Spezzia, near the eastern shores of the mainland;—and Andro, Tino, Mikoni, Syra, Zea, Thermia, Serfo, Sifanto, Milo, Paro, Naxo, Amorgo, and Santorin, at a greater distance from the land, in the more central part of the Archipelago. Nearly all of these are mountainous, watered, and fertile. Antiparo, a small island adjacent to Paro, is celebrated for an extensive grotto or cavern which it contains, formed naturally in the limestone rock of which the island is composed.

Although so small a country, Greece contains within itself all the various features of natural scenery, excepting large rivers. In the combination of its lofty and commanding mountains, and its rich sheltered plains, with spacious and beautiful inlets of the sea,—broken by headlands, encircled by mountains, and studded with islands,—it surpasses in varied and picturesque beauty every other country in Europe, and perhaps in the world (Art. 87.).

(387.) *Climate, Productions, &c.*—Greece experiences the warm and delightful climate described as characterising southern Europe in general (Art. 50.). On the plains near the coast, snow is seldom seen, though in the interior of the Morea the temperature of winter is much lower, and the snow occasionally lies on the ground for a period of some weeks. But, in most parts of the country, the winter is of short duration; gentle rains fall about the middle of February, after which spring commences. In the beginning of March the vine and the olives bud, and the almonds are in blossom; and in May the corn is reaped. The heaviest rains fall at the end of autumn and the beginning of winter: storms in summer are of rare occurrence, and hail is scarcely known.

The clear and cloudless sky of Greece has been much celebrated, and the perfect transparency of the atmosphere helps to display the natural objects of its scenery in their highest beauty. In summer a whole month sometimes passes away without a single cloud, except on the highest mountains. During the season of violent rains, shocks of earthquake are frequently felt, but they are generally slight, and rarely occasion any damage. The climate is generally healthy, except during the continuance of particular winds; but *malaria* prevails during the summer and autumn months in some of the inland valleys, owing to the vapours exhaled into the air and prevented from dispersion by the confined character of the district, shut in by surrounding mountains. This is especially the case in the marshy tract round the Lake of Topolias.

Among the natural productions of Greece are the numerous plants and fruits described as belonging to Southern Europe (Art. 68.). The

olive is distinguished by its superior excellence, and the vine grows luxuriantly, but is very little cultivated. One of the most characteristic fruits is the small kind of grape (usually called the Corinthian grape) which yields the *currants* so extensively consumed in our own country in a dried state, and which is almost peculiar to the western coasts of Greece and the adjacent group of the Ionian Islands. It is found in the greatest perfection along the southern shores of the gulf of Corinth, on some points of the opposite coast, and in Cephalonia, Ithaca, and Zante. Madder grows wild in abundance, and is cultivated in parts of Northern Greece. The cotton-plant thrives in many parts of the Morea. The orange, lemon, citron, fig, and banana, all afford the richest fruit. The water-melons and gourds are excellent, and furnish a considerable part of the food of the inhabitants.

Among the wild animals are the bear, wolf, lynx, wild-cat, boar, stag, roebuck, fox, and jackal. The bear is rarely seen, but wolves are numerous, and the flocks require to be carefully watched for protection from them. Bees are very abundant, and are reared with considerable attention: the produce of honey is very great, especially in Attica (the most eastern province of Northern Greece), where it is still celebrated, as in ancient times, for the excellence of its quality.

The mineral productions have been referred to in Art. 54. Marble of various colours, and the finest building-stones, abound, and were extensively quarried by the ancients. There are numerous mineral springs, both cold and thermal, some of them saline, and others of sulphureous quality. Sulphureous and mephitic vapours arise from many of the caverns and fissures which everywhere abound.

(388.) The *inhabitants* of modern Greece are the mixed offspring of the ancient Greeks and of various nations of Slavonic origin, and still exhibit many evidences of their descent from the race who formerly rendered their country so distinguished in arts, in literature, and in arms. They are quick, lively, intelligent, enterprising, and loquacious; but are not less distinguished by the vices of insincerity and proneness to falsehood. The tribe called the *Mainotes*, who inhabit the sides and valleys of Mount St. Elias (the ancient Taygetus), are especially noted for their bold and war-like habits, and boast of being the descendants of the ancient Spartans.

Besides the Greeks, properly so called, there are many Arnants, or Albanians, who are most numerous settled in parts of Northern Greece, on the northern and eastern coasts of the Morea, and in some of the islands, particularly those of Hydra, Spezzia, Kuluri, and Andro.

The language of modern Greece is called the *Romaic*, which bears considerable resemblance to the ancient Greek tongue. The Albanians generally preserve their own national dress, manners, and language, though many of them also speak the Romaic. The population of the towns are usually of a more mixed character than the inhabitants of the country; the eastern part of Northern Greece is that in which the ancient Hellenic race has maintained itself in the greatest purity.

The population of Greece scarcely exceeds a million (1,043,000, in 1855), an average of only 68 to the square mile, — so that it is one of the most thinly inhabited portions of Europe. The mountainous nature of its surface would prevent its becoming the seat of a dense population, though the number of its inhabitants in ancient times was much more considerable than at present. But even then its population was comparatively thin; and the splendid achievements of its people — with the enduring character of the memorials of their greatness — are apt to make us forget the fact of the mere handfuls of men by whom they were accomplished, and the small size of the country which formed their theatre of action.

(389.) *Industrial pursuits: Agriculture.*—The portions of Greece susceptible of tillage do not amount to two-fifths of its surface, and probably not more than a twelfth part is actually under cultivation. But, notwithstanding a wretched system of husbandry, the produce is still considerable, and affords a surplus for exportation. The most common objects of cultivation are, wheat, barley, maize, and rye, with oats in small quantity, and rice in some of the marshy districts. Tobacco and cotton are both grown, the latter to a considerable extent. The olive is cultivated in every part of the country, and the currant-grape in particular localities. The mulberry-tree is becoming an object of increasing importance, and the produce of silk is considerable.

The interior of the Morea (the *Arcadia* of the ancients) is wholly a pastoral district, and here — as in the mountainous tracts of Northern Greece — sheep and goats are very numerous. Indeed, the whole country is more suited for pasturage than for tillage, and a large proportion of the inhabitants follow the occupation of shepherds. At the approach of winter, the flocks are driven from the sides of the mountains to the plains of the coast, and again return to the higher districts in the month of April. The coarse wool furnished by the sheep is mostly exported; the flesh of the goats is largely used as food, and their skins are made into vessels for holding wine, oil, honey, and other liquids: a great deal of cheese is also made with the goat's milk, and their hair is of fine quality and highly valued.

Oxen are much less abundant, and are chiefly valued for use in ploughing; buffaloes are also used for the same purpose throughout the Morea.

(390.) *Manufactures.*—These are chiefly domestic, every peasant's family making such coarse articles of clothing as are required for ordinary use. A few silk, cotton, and

woollen stuffs, with pottery, cutlery, leather and soap, are made in the principal towns,—carpets in the island of Andro, and sail-cloths and straw-hats in that of Sifanto. The art of dyeing in bright colours has been perpetuated from ancient times, and the Greek women still excel in embroidery. But the finer descriptions of manufactured goods are derived from abroad. Ship-building is carried on at Syra, Lepanto, and other ports.

(391.) *Commerce.*—The maritime position and extended coast-line of Greece render her naturally adapted for becoming a commercial country, and her inhabitants have always been addicted to trading pursuits. The Greeks are, indeed, at the present day the principal agents in the commerce of the eastern Mediterranean, and supply British and other manufactured goods to the nations around its shores.

The *exports* are chiefly raw produce, as cotton, corn, currants and other fruits, silk, olive oil, tobacco, wool, honey, wax, gum, and valonia-bark. The *imports* are manufactured goods and colonial produce (sugar, &c.) from Western Europe; and coffee, flax, timber, rice, drugs, and other articles, from the Turkish provinces in Europe and Asia. The commercial intercourse carried on with Constantinople is very great, and also that with Trieste and Leghorn, and other Mediterranean ports. The mercantile navy of Greece embraces a great number of vessels, many of them of very small tonnage, though some are of 500 tons burthen.

There are few roads in the interior of the country, though some have been planned out, and partially executed, of late years. In the mountainous districts the transport both of goods and passengers is effected by means of horses or mules. Between Athens and its harbour, the Piræus (a distance of 5 miles), there is now, however, a good road, upon which various public vehicles maintain a constant traffic.

All the inhabitants of the islands, and the people dwelling on the coasts, are expert mariners. The town of Syra, on the island of that name, is the principal commercial station of the Archipelago, and is visited by the steam-packets running between Malta, Constantinople, Smyrna, and other mercantile towns adjacent to the eastern borders of the Mediterranean.

(392.) *National divisions.*—Greece is divided into ten provinces called *nomes* (or nomarchies), three of which are contained in Northern Greece, five in the Morea, and two comprehend the various islands. These are subdivided into eparchies.

The principal towns, with their population, are as follow :

Towns, with population.	
Northern Greece -	Athens, 32,000 — Livadia, 9000 — Thiva, 5000 — Lepanto — Missolonghi.
Morea - - - -	Nauplia, 15,000 — Corinth — Patras, 7000 — Tripolitza — Mistra — Arkhadhia — Navarino.
On the Islands - -	Syra (I. of Syra), 18,000 — Egripo, or Negropont (I. of Eubœa) — Hydra (I. of Hydra) — Spezzia (I. of ditto).

(393.) *Athens*, the capital of Greece, is situated near the western shores of the province of Attica, a peninsular district which terminates to the south in Cape Colonna (the ancient promontory of Sunium), — on the eastern side of the kingdom. It stands in a plain watered by the streams celebrated under the classic names of Cephissus and Ilissus, which, however, are mere rivulets, dried up, or lost in marshes, during the summer. Immediately adjacent to the city on the north-east is the hill of Lycabettus or Anchesmus ; further to the eastward is Mount Hymettus, and on the n. e., n., and w. sides the plain is bounded by the more distant heights of Pentelicus, Parnes, and Ægaleos.

As a modern city, Athens consists of narrow and winding streets, with mean and badly-built houses, though it has been greatly improved of late years. But the celebrity of Athens is derived from its ancient greatness, and the numerous remains of its former works of art. Of existing antiquities, the most celebrated is the Acropolis, or citadel, which crowns the summit of a rocky hill rising abruptly out of the plain, in the midst of the city, and contains the remains of the Parthenon, or temple of Minerva, the tutelary deity of the Athenians. A short distance west of this is the Areopagus, or Mars' Hill, from which the Apostle Paul addressed the assembled multitude of ancient Athens (Acts, xvii. 19—22): the eastern extremity of this hill was the seat of the tribunal called the Areopagus, the highest judicial court of Athens. Traces yet exist of the ancient long walls which connected Athens with its port, the Piræus, distant 5 miles to the s. w.

Twenty miles to the north-east of Athens are the village and plain of Marathon, celebrated for the great victory gained by the Athenians over their Persian invaders (B. C. 490). In the gulf of Egina, to the west of Attica, is the island of *Kuluri*, the ancient Salamis, the scene of a similar triumph achieved by sea, and in which the fleet of Xerxes was destroyed (B. C. 480). On the shore of the gulf, behind Salamis, is the village of *Lepsina*, the seat of the ancient temple in which the Eleusinian mysteries were celebrated.

Livadia, near the western shore of lake Topolias, is only a small town. *Thiva*, the ancient Thebes (to the e. by s. of Livadia, and 30 miles n. w. of Athens,) is of small size, and has no present importance. About forty miles to the n. w. of Livadia is the celebrated pass of *Thermopylæ*, between the ridge of Mount Ceta (an offset of the chain of Pindus) and the sea. The village of *Castri*, in the plain to the n. of the Gulf of Corinth, represents the ancient Delphi, the seat of one of the most celebrated oracles of ancient Greece.

Missolonghi and *Lepanto*, both situated near the western extremity of the Gulf of Corinth, are only small seaport towns. The Gulf of Arta, which indents the western coast of the mainland, further to the north-

ward, forms part of the division between Greece and Turkey: a promontory at its entrance marks the site of the ancient Actium, where the fleet of Augustus triumphed over that of his rival Antony, (B. C. 31).

Nauplia (or *Napoli di Romania*), at the head of a gulf on the eastern coasts of the Morea, is a place of considerable trade: a short distance to the N. W. are the remains of the ancient Argos, now a straggling place, with a few ruinous houses. *Corinth*, at the south-western extremity of the isthmus to which it gives name, is chiefly in ruins, and of no present importance: its citadel (the ancient Acro-Corinthus) is built on the summit of a hill 1800 feet high, and rising majestically out of the plain.

Patras, on the S. side of the entrance to the Gulf of Corinth, is a large straggling village, with a good deal of trade. The small town of *Mistra*, in the southern part of the Morea, is situated near the remains of the ancient *Sparta*, which lies about 3 miles to the eastward; it is now almost deserted, and Sparta in process of being rebuilt. Of the insular towns, *Syra*, *Egripo*, and *Spezzia*, are the most important, and are places of considerable trade.

(394.) The government of Greece is a limited monarchy, of recent establishment. After their country had for some centuries remained a province of Turkey, the Greeks revolted in 1821, and, with the aid of the principal European powers, succeeded after a lengthened struggle in achieving their independence. The present Kingdom of Greece was formed in 1832, and a German prince placed on the throne.

The Greeks do not appear as yet to have made any material advance in independence of character, or in claims to moral estimation, since their establishment as a separate nation. Their intellectual progress is more obvious. The people have an ardent desire for instruction, and an extensive system of public education has been established, embracing a University (at Athens), and numerous gymnasia, with primary and elementary schools in various parts of the country, all of which are numerous attended.

The established religion is that of the Greek Church, of which the king has been declared the head.

(395.) *The Ionian Islands*, situated to the west and south of Greece (Art. 47.), have formed since 1815 a separate state, under the protection of Great Britain: the government is administered by a Lord High Commissioner, appointed by the British Crown. From the early part of the 15th down to nearly the close of the 18th century, the sovereignty of these islands belonged to Venice. They were acquired by France in 1797, and remained chiefly in possession of the French until 1814.

The population of the Ionian Islands (wholly of Greek race) is 227,000. Corfu is the most populous, and ranks first in political importance: the most thinly inhabited are Cerigo and Santa Maura. The chief productions of these islands are the olive, the vine, and the currant, all of which they export in great quantity. Olives are most extensively cultivated in Corfu; grapes in Corfu, Zante, and Cephalonia; and currants in Cephalonia and Zante. Ithaca also produces a great quantity of grapes, and is noted for the excellence of its wine. Cerigo is distinguished for the abundance and fine quality of its honey, and contains a great number of horned cattle.

Wheat, and maize, and other kinds of corn, are also grown: but the extent of arable land is inconsiderable, owing to the mountainous character of the islands, and the quantity of grain raised is not sufficient for the wants of the inhabitants. The olive and vine are grown on the sides of the hills. In Corfu and Zante, soap is made to a small extent, and exported; and also great quantities of common earthenware. Silk shawls, coarse linen and woollen goods, and goats'-hair carpets and sacking, are also manufactured on a limited scale.

The *imports* into the Ionian Islands are wheat and other grain (chiefly from Odessa), with manufactured articles, cured fish, British hardware, and colonial produce: — the *exports* consist of olive-oil, currants, wine, valonia, cotton, soap, salt, and woven fabrics. The trade carried on is chiefly with Greece, Great Britain, Austria, Russia, and the Italian States.

The town of *Corfu*, on the east coast of the island of that name, is the political capital, and is the seat of a University. It contains about 17,000 inhabitants, and has considerable trade. But *Zante* (on the east coast of the island of Zante) is the most flourishing and industrious town, and contains about 20,000 inhabitants. The other towns are all of small size.

Earthquakes are of frequent occurrence in all the islands more so in Zante than either of the others; but the shocks are generally slight, and rarely cause much damage.

SECTION III. — ITALY.

(396.) *Boundaries, Extent, &c.*—Italy lies in the south of Europe, and embraces the central of the three peninsulas into which the continent divides in that direction. On the N. W. N., and N. E., it is bounded by the mountain-chains of the Alps, which divide it from France, Switzerland, and Germany, — and on the other sides by the waters of the Mediterranean. The direction of the Italian peninsula is from N. W. to S. E., and in its greatest length the country measures about 700 miles. In its northern or continental part the extreme breadth of Italy is upwards of 350 miles, but the peninsular portion is much narrower, and varies between 80 and 140 miles across from sea to sea: near its southern extremity the breadth is diminished to less than 20 miles.

In its most southern portion, the Italian peninsula divides into two smaller peninsulas, which terminate respectively in the capes of Spartivento and Di Leuca: between these two projecting portions is the Gulf of Taranto. The sea on the east side of Italy forms the long and narrow gulf of the Adriatic, and different portions of that which bounds the southern and western coasts are distinguished as the Ionian, Sicilian, and Tuscan Seas, and the Gulf of Genoa.

Adjacent to Italy are numerous islands, three of which—Sicily, Sardinia, and Corsica—are of large size. Besides these are Elba, and many others of small extent, off the western coasts,—the Lipari Islands, to the north of Sicily,—Malta and Gozo, to the south of that island,—and a few small islets in the Adriatic (Art. 47.). Corsica belongs to France, and has been included in the account of that country (Art. 223.), and the island of Malta is a British possession.

The total area of Italy, including the islands, with the exception of Corsica and Malta, is 113,594 English square miles.

(397.) *Surface, Rivers, &c.*—Italy is generally a mountainous country, though it contains some level districts of considerable extent. The Alps, which form its northern frontier, rise above the limits of perpetual snow, and are the most extensive mountain system in Europe (Art. 23.). The highest portion of the system, on the borders of Italy, Switzerland, and Savoy, is distinguished as the *Pennine Alps*, the western termination of which rises into the huge mass of Mont Blanc. Further to the south they are called the *Graian* and *Cottian Alps*, and where they bend to the eastward, parallel to the shores of the Mediterranean, are known as the *Maritime Alps*. These latter form, near the head of the Gulf of Genoa, the commencing portion of the *Apennines*, which thence extend through the entire length of Italy, dividing towards the southern part of the peninsula into two branches, and terminating at the Capes of Di Leuca and Spartivento.

The Apennines are of much less elevation than the Alps, and very few of their summits reach the line of congelation, though the higher parts of the chain are covered with snow for several months of the year (Art. 23.).

Between the Alps and the northern portion of the Apennines is the plain of Lombardy, which has a general slope towards the head of the Adriatic, and is watered by the rivers Po and Adige, with their numerous tributaries. The lower part of this plain is nearly a perfect level, of great natural fertility, and is the most richly-cultivated and populous portion of Italy. The mountain-chains by which it is bordered on the north and south rise with a steep acclivity, and enclose among their offsets many fine valleys; those

on the side of the Alps contain numerous lakes, some of which are of considerable size.

On the west side of the Apennines, an extensive level or undulating district stretches along the shores of the Mediterranean for upwards of 200 miles,—from the neighbourhood of Pisa (on the river Arno) to the town of Terracina, at the southern extremity of the Papal States (lat. $41^{\circ} 16'$). This tract spreads into plains of considerable breadth ; but it is in many parts unfertile, and almost throughout very unhealthy, owing to the prevalence of *malaria*. Within Tuscany it embraces a tract called the *maremma*, the soil of which is in many places quite sterile and unproductive, though by means of extensive drainage some parts have been greatly improved and rendered capable of cultivation. In the neighbourhood of Rome it forms the *Campagna di Roma*, the soil of which is generally dry, and in some parts of great natural fertility ; but the Campagna is a deserted tract, in which scarcely any habitations, and hardly even a tree, are to be seen.

At the southern extremity of the level tract above described are the *Pontine Marshes*, which extend for a distance of 24 miles along the coast and about 12 miles inland. They have been partially drained, and are naturally capable of bearing abundant crops ; but the land is almost wholly in pasture, and this tract (as well as the Campagna di Roma) is dreaded even by the shepherds, on account of its extreme unhealthiness, which at certain seasons of the year makes it dangerous even to travel through it.

The country around Naples, called the *Terra di Lavoro*, is a level tract (in which, however, the volcanic cone of Mount Vesuvius rises like an island in the midst of the plain), and is distinguished by extraordinary fertility. It is quite free from malaria, and is cultivated throughout like a garden.

On the east side of the Apennines is a considerable plain, called the *Capitanata* (or *Terra de la Puglia*), which extends along the shores of the Adriatic from the neighbourhood of Otranto (lat. $40^{\circ} 9'$) to the promontory of St. Angelo (lat. $41^{\circ} 50'$). Its southern part is dry, unfertile, and generally destitute of trees ; but further northward it improves in character, and furnishes extensive pastures.

(398.) *Rivers*.—The principal rivers of Italy are the Po, the Adige, the Arno, and the Tiber (Art. 37.). Of a vast number of smaller streams, the Ombrone, in Tuscany, and the Volturno, a few miles north of Naples, are among the most important.

The Po is capable of navigation through almost its whole course, but is not much used for this purpose, owing to the danger caused by the frequent and sudden changes in the rapidity of its current, when its numerous tributaries are swelled by the violent rains or the melting of the mountain-snows. The Po carries down an immense quantity of mud, the deposit of which, in the lower part of its course, has gradually raised the bed of the stream to a higher level than that of the adjacent country, which is obliged to be protected from inundation by immense

mounds or embankments.* From the same cause it has also been continually pushing its delta further out into the Adriatic, so that towns which in the time of the Romans were on the sea-shore are now twenty miles inland.

The Arno and the Tiber are both navigable for a considerable distance, and communicate in their upper courses by a canal, partly natural and partly of artificial formation.

The largest *lakes* are Maggiore, Como, Garda, and others, in the southern valleys of the Alps (Art. 42.). There are numerous smaller lakes among the Apennines, mostly on the western side of the chain, and, for the most part, of circular or oval shape. The principal of these are the lakes of *Perugia*, *Bolsena*, and *Bracciano*, (all in the Papal States), and the lake of *Fucino*, in the Neapolitan territory. Of still smaller size are the lakes of *Albano* and *Nemi*, near Rome, — and *Averno* and others, in the neighbourhood of Naples, — which occupy the craters of extinct volcanoes.

The natural features of Sicily and Sardinia have been described in Art. 47.

(399.) *Climate: Natural Productions.* — The climate of Italy is warm and dry throughout, but is modified in different parts by the various circumstances of elevation, and position with regard to the mountains and surrounding seas. In Piedmont and Lombardy, to the north of the Apennines, snow falls in winter, and the lagunes near the mouths of the rivers are sometimes frozen. The mulberry and the vine flourish, and rice is cultivated, but the cold winds from the north are often severe, and prevent the more delicate fruits from thriving, except in sheltered places. But all over the central part of Italy, snow and ice are almost confined to the higher mountain-region, and the olive, the orange, and the lemon flourish luxuriantly: even here, however, snow is occasionally seen, though it never remains on the ground. In the extreme southern part, and in the adjacent island of Sicily, ice and snow are quite unknown (excepting near the summit of Etna); and in addition to the plants above mentioned are the sugar-cane, the Indian fig, the papyrus and the date-palm, and other plants of tropical countries, which are abundant on the low and warm plains.

The climate is generally healthy, excepting in the parti-

* Near Ferrara the surface of the Po is 30 feet higher than the streets of the town, past which it is carried between mounds, like a huge aqueduct or canal.

cular districts already referred to, and in the marshy tracts near the mouths of the Po: but during the summer the heat is very intense, and sometimes threatens almost to destroy vegetation, and the occasional prevalence of the *sirocco* is an evil seriously felt. The atmosphere is distinguished by the same perfect transparency, and the sky by the same intense and brilliant azure, as in Greece. The rains are less dispersed throughout the year than in more northern latitudes, but fall with great violence at particular seasons, and swell the mountain-torrents with almost inconceivable rapidity. (Arts. 52 and 53.)

The most important of the natural productions of Italy are the plants and fruits already mentioned, and the rich vegetation everywhere imparts a characteristic aspect to the scenery. The plains and lower slopes of the hills are clothed with the mulberry and the vine, the olive, the myrtle, the laurel, and numberless evergreens, — while at a greater elevation are found the chestnut, the oak, and the beech, and these gradually pass into the arbutus, the pine, and the varied forms of Alpine vegetation, which extend to the very summits of the mountains. (Arts. 65, 68.)

Among the wild animals found in the forests of Italy are the wolf, the lynx, the stag, the marmot, the badger, and (in the extreme south of the peninsula) the wild-boar. The crested porcupine is supposed to be peculiar to the south of Italy. Foxes, hares, and a great variety of birds, are abundant. In the south, reptiles of various kinds, and insects, are very numerous. The rivers and lakes abound with fish, and some of the fisheries round the shores are of great value (Arts. 73—78.). The mineral productions have been described in Art. 55.

All the southern part of Italy is liable to the occasional occurrence of earthquakes, which have on various occasions caused great injury to the inhabitants, and even materially altered the physical aspect of the country in particular districts. In the great earthquake of Calabria (the most southern province of Italy), which commenced in 1783, the shocks were felt at intervals during a period of nearly four years, in the course of which deep clefts or fissures were opened in the solid earth, rivers were interrupted in their flow, and their channels completely altered by the fall of large masses of earth, new springs were originated and others stopped, broad and deep chasms opened in the grounds, circular hollows formed in the plains, and the buildings in most of the towns within the limits to which the phenomena extended completely overthrown, with the accompaniment of an immense destruction of human life. A like phenomenon, of hardly less destructive violence, occurred within nearly the same region in 1857. But these occurrences are rare, and the volcanic vents of Etna and Vesuvius, in frequent action, appear to serve as the ordinary outlets for the subterranean force, which seldom manifests itself in a different form excepting during their quiescence for a longer period than usual, as on the above and similar occasions.

(400.) *Inhabitants.*—The total population of Italy is little

short of twenty-five millions, equivalent to an average for the whole country of 220 inhabitants to the square mile. But some parts of Italy have a much higher ratio of population than others: Lombardy has 365 inhabitants to the square mile, and excels in populousness any country in Europe, with the exception only of Belgium, England, and some small portions of Germany.

Like the people of Greece, the modern inhabitants of Italy are a mixed race, descended in part from the various tribes of foreigners (Greeks, Germans, Goths, and others) who have at different times migrated into the peninsula and become intermingled with the original population. But there is nevertheless a marked uniformity of appearance, manners, and habits, among the whole body of the inhabitants, which stamps them as a distinct people. Their language, the Italian, is based upon the ancient Latin tongue, but bears a less decided resemblance to it than the Romaic does to the ancient Greek.

(401.) *Industrial Pursuits: Agriculture.*—Italy is chiefly an agricultural country, and, in many parts, the soil is not excelled in fertility and productiveness by any portion of the globe. In Lombardy, the great majority of the population are connected with agricultural pursuits, and about eight-ninths of the whole surface of the province are under actual cultivation. In other parts of the country considerable tracts are devoted to pasturage, and some are left altogether waste: but in the Neapolitan territories nearly three-fifths of the land are under cultivation. Yet, notwithstanding this, owing to the backward and defective processes of husbandry, the indolence of a large proportion of the people, and a variety of social causes, the produce of the soil is not always sufficient to supply the consumption of the inhabitants.

Particular parts of the country are specially devoted to certain products: thus, Lombardy and Piedmont are chiefly distinguished for the growth of the mulberry and the cultivation of corn (including rice);—Tuscany, for the culture of the olive:—and the Neapolitan provinces for the growth of the vine and other fruits.

In Lombardy, besides wheat, maize, and other grains, considerable crops of rice are raised in the tract situated between the Adige and the lower course of the Po, the land being artificially laid under water for the purpose. But the growth of the mulberry is largely extending itself, and the produce of silk in this province is very great, amounting to more than half the total quantity furnished by Italy. In one district of Lombardy (in the neighbourhood of Milan, Pavia, and Lodi, extend-

ing from the banks of the Po to those of its tributaries the Ticino and the Adda) an immense number of cattle are kept, and cheese and butter are produced in very large quantities. This tract supplies the celebrated Parmesan cheese, which is largely exported to other countries.

In the Papal States agriculture is generally in even a more backward state than in other parts of Italy, and the chief attention of the farmers is given to the rearing of cattle, large numbers of which, with numerous herds of sheep, are pastured in the Campagna and elsewhere. Goats are numerous here and in other parts of Italy. Throughout the country, oxen are uniformly used for the plough, and also, in many districts, buffaloes, which are tolerably numerous.

In the kingdom of Naples, the cultivation of the vine, the olive, and the mulberry, is combined with that of corn, since the land produces better crops of grain when sheltered by trees from the burning rays of the summer sun. The vines are here trained upon elms or poplars, beneath the shade of which, or under that of myriads of olive-trees, the most luxuriant crops of corn are seen to flourish. Around the sides of Mount Vesuvius (as ever the whole country in the immediate neighbourhood of Naples) are numerous vineyards, which yield the most delicious fruit; and the frequent devastations caused by its eruptions do not hinder the Neapolitan peasant from returning to his fields, or prevent the mountain from again becoming, after the immediate cause of alarm has passed away, the seat of a numerous population.* Rice is grown upon some portions of the Neapolitan coast, as well as in other parts of Italy.

The island of Sicily shares in all the richest productions of southern Italy; its wheat is reckoned the finest in Europe, and it was in ancient times regarded as the granary of Rome, though now (owing to defective agriculture and other causes) it sometimes does not produce enough for the consumption of its own inhabitants. The vine is extensively cultivated, and produces in some places excellent wine.

In the island of Sardinia, about a third part of the surface is laid out in corn-fields, vineyards, and olive-grounds. The grain is of superior quality and affords a surplus for exportation; the wines are equal to those of Spain, and the olives are not inferior to those from the finest parts of Italy. The produce of the dairy is also excellent and abundant. The whole island indeed abounds in rich natural produce, furnished by the spontaneous fertility of the soil; but these advantages are comparatively neglected by the inhabitants.

(402.) *Manufactures.* — Italy is not generally a manufacturing country: the silk manufacture is the most considerable, and gives extensive employment in most of the towns in Lombardy, and also to a less extent in other parts of the country. In the Piedmontese territories this branch

* A delicious species of wine (called *lachryma Christi*), produced by the vineyards round Vesuvius, is regarded as owing its peculiar favour to the superior richness which the subterranean heat of the soil imparts to the grape.

of industry has progressed greatly of late years, and the silk manufactures of Turin almost rival those of Lyons. Coarse woollen and linen goods are also made, both in Lombardy and elsewhere, and supply the ordinary clothing of the peasantry.

Milan is celebrated for its manufacture of weapons and arms, and iron-work of all kinds is extensively carried on there and at several other towns in Lombardy. The making of cotton-fabrics, straw-plait, gauze, artificial flowers, straw-hats, paper, parchment, leather, glass, porcelain, and musical instruments, is pursued to a greater or less extent in various parts of the country. But the wealth of Italy consists in its raw produce, and the chief supply of manufactured articles, whether of luxury or necessity, is derived from abroad.

(403.) *Commerce.* — The foreign trade of Italy is considerable, and is carried on to a larger extent with England than with any other country. Next to Germany and Holland, Italy imports the largest quantity of British manufactured goods: cotton-stuffs and yarn constitute two-thirds of the amount of these, and the remainder embrace woollen goods, refined sugar, iron and steel, hardware, coal, and various articles of colonial produce. A great amount of trade is carried on with the Russian provinces on the Black Sea, and the countries round the eastern shores of the Mediterranean, and also with France, Austria, Switzerland, Spain, and other European states. Besides the articles above mentioned, Italy imports corn from Odessa and Alexandria, wool from the Levant, wines from France and Spain, salt-fish from the countries of north-western Europe and elsewhere, and various manufactured articles from France, Belgium, and Switzerland. *Leghorn*, in Tuscany, is the most extensive seat of the foreign trade, and constitutes a *depôt* from which great part of Italy are supplied with the produce of other nations.

The *exports* of Italy consist of olive-oil, silk, kid and lamb skins; sulphur, borax, alum; straw-hats and plait; wines; lemons, oranges, and other fruits; oak and cork bark, timber, charcoal, potash; coral, anchovies, wax, liquorice, essences and perfumery. The raw silk is chiefly supplied to France; the oil, fruits, and other Italian produce, to Britain, Germany, Holland, and other European nations.

Genoa, Leghorn, Civita Vecchia, and Naples, on the side of the Mediterranean; Venice and Ancona, on the coast of the Adriatic;

with Palermo, Messina, Catania, and Marsala, on the island of Sicily, are the chief seats of foreign commerce.

(404.) *Internal Communication.* — In Austrian Italy, the Piedmontese territory, and Tuscany, the roads are generally good, and are kept in tolerable order: but in central and southern Italy they are very defective, and, owing to the demoralisation attendant upon bad government, and the consequent absence of energetic exertion on the part of the people, communication between the eastern and western coasts has hitherto been largely impeded, even by the moderate elevations of the Apennine chain. The best roads in the Papal States are the still existing ancient Roman highways. There are numerous passes over the Alps, by which communication is carried on with France, Switzerland, and Germany (Art. 23.). Mules are generally used for purposes of transport over the mountain roads.

But railways now connect all the principal cities of Northern Italy, and form a nearly continuous line of communication from the shores of the Adriatic to the eastern foot of the Alps, in the neighbourhood of Mont Cenis. The labours of the engineer are employed in tunnelling through the great mountain chain, with a view to the connection of the Piedmontese system of railways with that of France. Canals for the purpose of irrigation are numerous in Piedmont and Lombardy.

(405.) *National Divisions.* — Until within a very recent period, Italy was divided politically into several distinct and sovereign states. The great struggle for national unity on the part of the Italian people is still (1860) in progress, and in the uncertainty which exists as to the final arrangements which may result from passing events, it is necessary, in describing the topographical features of this country, to follow in some measure the divisions that have hitherto been recognised. Austrian Italy, however, which previously comprehended Lombardy as well as Venice, has become limited by the war of 1859 to the Venetian territory only; while the Sardinian kingdom, besides gaining Lombardy, has been since increased by the acquisition of Tuscany, Parma, Modena, and that portion of the former Papal territory which is known as the Æmilian province, or Romagna. Yet more recently, the entire area of the Neapolitan kingdom, with the greater part of the Papal States, have been annexed to the Sardinian crown by the voice of the Italian people.

The recognised divisions of Italy, in the latter half of the year 1860, were —

1. AUSTRIAN ITALY, or VENETIA.
2. KINGDOM OF SARDINIA.

3. STATES OF THE CHURCH, OR PAPAL TERRITORY.

4. KINGDOM OF NAPLES AND SICILY.

The last-mentioned of these can hardly be said to have more than a nominal existence at the present time.

1. AUSTRIAN ITALY.

(406.) The portion of Italy subject to the rule of Austria included, prior to 1859, nearly a fifth part of the Italian mainland. The Lombardo-Venetian kingdom, as it was called, comprehended the whole tract of country between the Ticino and the Adriatic—embracing the rich plain of Lombardy, the chief part of which is now transferred to Sardinian rule.

Austrian Italy is now limited to the province of Venetia, the north-eastern portion of the Italian mainland. This reaches from the Po to the Alps, and from the shores of the Adriatic to the west of the Mincio. It comprehends an area of 9715 English square miles, and a population of 2,306,000.

The principal towns of Austrian Italy, with their populations, are — Venice, 128,000—Padua, 51,000—Verona, 50,000—Vicenza, 30,000—Mantua, 30,000—Udine, 26,000—Treviso, 19,000—Belluno, 10,000—Bassano, 10,000.

(407.) *Venice*, situated near the head of the Adriatic, is built upon some low islands, in the midst of extensive lagunes, which are partially divided from the sea by a narrow strip of firm sand. In the lapse of time the lagunes have become shallower, from the deposit of mud brought down by the rivers of the adjacent mainland, and are no longer capable of floating such large vessels as formerly: they have, however, been partially deepened of late years. The chief thoroughfares of Venice are its canals, which wind through all the principal streets, and the communication between different parts of the city is almost universally carried on by means of boats (or gondolas). Many of the palaces and public buildings are very fine, and the churches are numerous. The arsenal is extensive and strongly fortified.

During a large portion of the middle ages, Venice was one of the most important commercial cities on the globe: its vessels shared with Genoa the traffic of the Mediterranean, and commanded the rich commerce of the East. Though long fallen from its importance in this respect, and presenting the aspect of a decayed city, it is still the seat of considerable trade, and is a principal station of the Austrian fleet. Venice is about seven miles in circumference.

Padua, situated in the plain 22 miles to the west of Venice, is a busy commercial city, and the seat of a University. *Verona*, on both banks of the Adige, has extensive commerce, and is also a strong fortress. It occupies an important military position on one of the principal roads

from the Tyrol into Italy. *Legnago*, a strongly-fortified town, is also on the Adige, thirty miles below Verona. *Vicenza*, lying in the plain between Verona and Padua, is the seat of extensive silk manufactures. *Mantua*, 22 miles to the s. by w. of Verona, is a strong fortress, insulated by the waters of the Mincio, upon which river it stands. Mantua inherits classic fame as the birthplace of Virgil. On the road between Verona and Mantua, 9 miles s. w. of the former, is the little town of Villafranca. *Peschiera*, at the outlet of the Mincio from the lake of Garda, is another of the strongholds of Austrian military rule.

2. KINGDOM OF SARDINIA.

(408.) The Sardinian States consisted, before the war of 1859, of the territories known as Piedmont, Genoa, Nice, and Savoy — situated on the Italian mainland, with the island of Sardinia, whence the title of the monarchy is derived. The Kingdom of Sardinia, thus constituted, had an area of 20,077 square miles, and a population of 5,167,000. The continental portions of its territory formed 39 provinces, and the island of Sardinia eleven provinces.

The immediate result of the victories gained by the united arms of France and Sardinia, in the brief campaign of 1859, was the transfer of Lombardy from Austrian to Sardinian rule; by which Sardinia gained 7838 square miles of territory, and above two million and three quarters of subjects. Events which followed in rapid succession led to the further aggrandisement of the Sardinian monarchy by the addition of Tuscany, Parma, Modena, and an important portion of the Papal territory (the Æmilian province, or Romagna). Savoy and Nice were meanwhile, in the early part of 1860, with the consent of their inhabitants, ceded by Sardinia to France.

The KINGDOM OF SARDINIA, with these additions, comprehended, in the summer of 1860, a total area of above 48,600 square miles, and a population of eleven millions and a quarter.

(409.) The chief towns embraced within Piedmont, Lombardy, the Genoese territory, and the island of Sardinia, are : —

Towns, with population.

Piedmont - - - -	Turin, 180,000—Alessandria, 36,000—Asti, 20,000—Coni, 18,000—Casale, 21,000—Novara, 10,000—Aosta, 7000.
• Lombardy - - -	Milan, 189,000—Brescia, 35,000—Bergamo, 32,000—Cremona, 28,000—Pavia, 28,000—Como, 18,000—Lodi, 16,000—Monza, 18,000.
Genoa - - - -	Genoa, 120,000—San Remo, 10,000—Savona, 16,000—Spezzia, 10,000—Voltri, 9000.
Island of Sardinia -	Cagliari, 30,000—Sassari, 23,000—Oristano, 6000—Nuoro, 3700.

(409.) *Turin*, the capital of the Sardinian kingdom, is situated on the left bank of the Po, in the midst of a region delightfully diversified in aspect. It ranks first among the cities of Italy in the number of its scientific and literary establishments, the principal of which is its University, the best frequented in the country. To the s. w. of Turin, among the advancing spurs of the Alps, are the valleys which formed the home of the Waldenses, the early pioneers of the reformed religion. *Alessandria* (47 miles s. by E. of Turin,) on the right bank of the Tanaro, has manufactures of cloth and linen, and some trade; a few miles to the E. is the village of Marengo, the site of one of the first Napoleon's great victories (1800).—*Coni*, 50 miles s., and *Novara*, 55 miles to the N. E., of Turin, are places of considerable trade. — *Aosta*, a small town near the foot of the Alps, is situated at the point where the roads over the Great and Little St. Bernard meet.

Milan (in Italian *Milano*, in German *Meyland*), is situated in the midst of the rich plain of Lombardy, on the banks of the river Olona, one of the affluents of the Po. It is noted for its magnificent cathedral, and has numerous public buildings and splendid palaces, which entitle it to be regarded as one of the finest cities of Italy. Milan is the seat of considerable trade.

Brescia, 50 miles E. of Milan, is an active commercial city, with manufactures of arms and silk. *Bergamo*, 28 miles N. E. of Milan, has also extensive silk manufactures. *Cremona*, on the left bank of the Po, is noted for its manufacture of violins. *Pavia*, on the east bank of the Ticino, near its junction with the Po, possesses historical celebrity as the ancient capital of the Lombard kings, and as the scene of several important events; it is also the seat of a University. *Como*, at the outlet of the Adda from the lake of Como, has manufactures of cloth, silk, and philosophical instruments. At the head of the Lake of Como begins the Valtelline, an extensive Alpine valley watered by the upper portion of the river Adda, which enters the lake.

The plains of Northern Italy, like those of the Low Countries, have been the frequent battle-field of nations, and are rich in historic memories of every age. Among places distinguished in connection with the Italian campaigns of Napoleon I. are Marengo and Montebello (both in the neighbourhood of Alessandria), Lodi (on the river Adda), and Arcola (to the south-eastward of Verona). The battle-fields of Palestro (a few miles east of Vercelli), Magenta (near the left bank of the Ticino), and Solferino (one mile distant from the west bank of the Mincio), possess a like celebrity in connection with the operations of Napoleon III. during the brief Italian war of 1859.

(410.) *Genoa*, near the head of the gulf of that name, is built on the sides of a hill which slopes towards the sea; it presents a magnificent appearance, owing to its numerous marble palaces and other buildings, advantageously exposed to view by the declivities of the ground. Genoa has considerable manufactures of silks, velvets, damasks, &c., and carries on great trade. It is also the seat of a University. The village of *Cogolato*, near the coast, about 18 miles west of Genoa, disputes with that city the distinction of having been the birth-place of Columbus. *Savona* and *Voltri* both have considerable clothworks, and *Spezzia*

(beautifully situated at the head of a small gulf of the Mediterranean*) carries on some trade.

(411.) *Cagliari*, the capital of the island of Sardinia, lies at the head of a bay on the s.e. coast, and is a place of considerable trade.—*Sassari*, in the north-western part of the island, is a flourishing town, situated in the midst of a fine agricultural district. Both *Cagliari* and *Sassari* possess Universities. The other towns in the island are all of very small size.

The population of the island of Sardinia amounted, in 1857, to 577,000. The people are generally a brave and hardy race, but indolent and altogether backward in civilisation. There is little communication between the different parts of the island: a good carriage-road has been constructed from *Cagliari* to *Oristano*, on the west coast, and thence to the north shore of the island, but in the interior there are, in general, only mountain-paths, not always practicable even for mules.

The channel between the islands of Sardinia and Corsica is called the Strait of Bonifacio.

(412.) **TUSCANY**, which previous to 1860 ranked as a separate grand-duchy, includes an area of 8553 square miles, and a population of 1,817,000.

Tuscany embraces one of the finest portions of Italy. The principal cities within its limits are—*Florence*, 114,000; *Leghorn*, 80,000; *Pisa*, 22,000; *Lucca*, 25,000; *Sienna*, 22,000; *Pistoja*, 12,000; *Arezzo*, 12,000.

Florence (in Italian *Firenze*), the former capital of the grand-duchy, is situated in the delightful valley of the *Arno*, which flows through the centre of the city. It contains a magnificent cathedral, with numerous churches, palaces, and various public buildings; and is greatly celebrated for its splendid collections of works of art, both in sculpture and painting.—*Leghorn* (in Italian *Livorno*), one of the principal seats of Italian commerce, is about 50 miles to the w. by s. of *Florence*: opposite to it is the small island of *Melora*, between which and the mainland is an extensive roadstead. Ship-building is largely carried on at *Leghorn*. The city is well built, with broad streets and numerous churches, among which is a fine cathedral.

Pisa, on the right bank of the *Arno*, a few miles above its mouth, is an ancient and decayed city, the seat of a University, and distinguished by many fine buildings, among which are the cathedral, and a tower of 188 feet in height which diverges slightly from the perpendicular. *Lucca*, 14 miles n. by e. of *Pisa*, on the banks of the river *Serchio*, lies in one of the most fertile and best cultivated parts of Italy; it is the seat of a University, and contains a fine cathedral. *Lucca*, with a small adjacent territory, was formerly an independent state, but became attached to Tuscany in 1847.

Sienna, 30 miles south of *Florence*, has a fine cathedral, a gallery of the

* In the middle of the Gulf of Spezzia is a spring of fresh water rising up in the bottom of the sea,—a curious fact in physical geography, though one of which other instances are not unknown.

fine arts, and a University. — *Pistoja*, 22 miles n. w. of Florence, near the foot of the Apennines, is an industrious town, with manufactures of cloth, arms, ironmongery, and organs. The other towns in Tuscany are small, but many of them are thriving seats of trade and manufacturing industry. *Signa*, a large village on the banks of the Arno, is the centre of the manufacture of straw-hats, to which the name of Leghorn has become attached, owing to that city being the medium of their export. *Seravezza*, 20 miles to the n. w. of Pisa, has quarries of fine statuary marble, equal to that of Carrara (Art. 55.).

(413.) The territory of **PARMA** (2400 square miles,) formerly an independent duchy, but in 1860 annexed to the Sardinian crown, lies immediately to the southward of Lombardy, from which it is divided by the course of the Po. It includes the cities of Parma and Placentia (Piacenza), with Borgo-san-Donino and a few smaller towns.

Parma, the former capital of the duchy, stands beside a river of the same name, one of the tributaries of the Po. It is well built, adorned with many works of art, and the seat of a University. *Placentia* is on the right bank of the Po, and about equidistant from Parma and Milan.

(414.) **MODENA** (2336 square miles), also enjoying before 1860 the rank of a duchy, and annexed to Sardinia in that year, is immediately to the eastward of Parma, and to the northward of Tuscany. Its chief towns are, Modena, Reggio, Guastalla, Massa, and Carrara.

The city of *Modena* (30,000 inhabitants), the former capital of the duchy, stands in the midst of the fertile plain which extends from the south bank of the Po to the foot of the Apennines. It is the seat of a University. *Reggio*, midway between Modena and Parma, is on the line of road which connects those cities. *Guastalla* is on the south bank of the Po. *Carrara*, celebrated for its quarries of statuary marble, lies on the western declivity of the Apennines, only a few miles distant from the Mediterranean coast. *Massa* is three miles to the s. e. of Carrara.

(415.) The territory known as **ÆMILIA***, or the Romagna, immediately adjoins Modena and Tuscany on the west and south-west, and reaches eastward to the waters of the Adriatic. It includes the former legations of Bologna,

* This name is derived from that of the Via Æmilia, one of the most celebrated of the Roman highways, which traversed the tract of country lying between Placentia and Ariminum (the modern Piacenza and Rimini), and under the Roman Empire gave its name to the province of Æmilia. The Æmilian Way was the first road constructed by the Romans in the northern portion of the Italian peninsula, and remains to this day a monument of Roman greatness. It first carried civilisation into the heart of Cisalpine Gaul.

Ferrara, Ravenna, and Forli, included until 1860 within the Papal territory. The Æmilian territory has an area of 3854 square miles, and includes a population of more than a million.

The city of *Bologna*, the chief place in the Æmilian provinces, has upwards of 75,000 inhabitants. It stands in a fine plain, about midway between the Apennine and the Po, and 27 miles distant from that river. Bologna is distinguished for its ancient university, its academies of the fine arts, and various literary institutions. It has considerable manufactures of silk, glass, wax, chemical works, musical instruments, &c., and a great deal of inland trade.—*Ferrara*, near the banks of the Po, in a flat marshy district, is a fortified city, and the seat of a University.—*Ravenna*, 40 miles to the east of Bologna, is an ancient city of great historical celebrity, but now decayed. It formerly stood on the sea-shore, but is at present several miles inward, owing to the extension of the coast on either side of the mouths of the Po.—*Rimini* (17,500 inhabitants), on the Adriatic coast, is 30 miles s. e. of Ravenna. The little stream of the Fiumicino, which enters the Adriatic a few miles north of Rimini, represents the classic Rubicon, and marked the boundary between ancient Italy and Cisalpine Gaul.

3. THE STATES OF THE CHURCH.

(416.) The Ecclesiastical States were formerly divided into 21 provinces, or legations, four of which became in 1860 annexed to the Sardinian monarchy. The principal towns in the portion of Italy which they embrace are:—Rome, 180,000; Ancona, 36,000; Perugia, 18,000; Benevento, 23,000; Viterbo, 14,000; Rieti, 9000; Velletri, 12,000; Civita-Vecchia, 7000; Tivoli, 6000; Loreto, 8000.

(417.) *Rome*, long the capital of the world, is situated on the banks of the Tiber, about 16 miles above its mouth. The Tiber divides Rome into two unequal portions: only a small part of the ancient city lay on the west bank of the river, and the larger part of Rome is still on the east side of the Tiber; but the cathedral Church of St. Peter, and the Vatican, are situated in the part to the west of the river. The walls of Rome include a circuit of 15 miles, but the greater part of the space which they enclose is occupied by gardens, vineyards, scattered buildings, and ruins, spread irregularly over four of the seven hills upon which the ancient city stood. The inhabited part of modern Rome is of much smaller extent, and occupies the north-west part of the ancient city, embracing the plain along the banks of the Tiber (the ancient *Campus Martius*), with the three remaining hills, and the portion on the opposite side of the river.

The finest buildings of Rome are the churches, of which it contains three hundred and sixty-four. *St. Peter's*, the largest, is the most magnificent ecclesiastical structure in the world, and surpasses our own *St. Paul's* cathedral both in dimensions and in the elevation of its dome.

The church of *St. John Lateran*, at the south-east extremity of the city, is that in which the Popes are crowned.

The palace of the *Vatican*, which forms the usual winter residence of the Pope, is adjacent to the cathedral of St. Peter, and is distinguished for its magnificent collections of works of ancient and modern art, embracing some of the finest sculptures of antiquity, and the masterpieces of the Italian painters of the fifteenth and sixteenth centuries. It possesses also a library of 100,000 volumes, with an exceedingly rare collection of manuscripts. The *Quirinal*, or summer palace of the Pope, stands on the ancient Quirinal Hill, in the eastern part of the modern city, and is an extensive structure, with spacious and fine gardens.

But, independent of its particular objects of grandeur and magnificence, modern Rome is far from being a fine city; the streets are generally narrow, and the houses crowded together, and the dirt and filth which everywhere abound (and which disfigure many of its finest and most interesting monuments) are a disgrace to any civilised community. Of its numerous remains of antiquity, the most majestic is the Flavian amphitheatre, or *Coliseum*—nearly in the centre of the ancient city, but beyond the limits of the modern dwellings; it is of oval shape, 564 feet in length and 467 feet in breadth, and forms a magnificent ruin, consisting of three tiers of arches one above another, and surrounded by a range of pilasters. It was anciently used for the sports of the circus (the combats of wild beasts, gladiators, &c.), and is said to have been capable of accommodating 80,000 spectators. The temple of the Pantheon, another of the interesting structures of antiquity, has been converted into a Christian church. There are, besides, in every part of the space which the ancient walls enclose, numerous remains of temples, baths, tombs, arches, and single columns, which excite the admiration of the beholder not less by the solidity and massiveness, than by the beauty, of their architecture.

Among the ordinary inhabitants of Rome are numerous foreigners from almost every part of the civilised world, many of whom reside there for the sake of being enabled to study its matchless collections of works of art. Rome is the seat of a University, one of the oldest in Europe, and possesses several institutions for the cultivation of science and the various branches of the fine arts.

Near its mouth, the Tiber divides into two small branches: on the southern of these is *Ostia*, once the flourishing port of ancient Rome, but now almost entirely abandoned on account of malaria; *Fiumicino*, on the northern branch, is a small place, of no importance.—*Civita-Vecchia*, further to the northward, and 40 miles n.w. of Rome, is the chief naval port of the Ecclesiastical States on the side of the Mediterranean.

(418.) *Ancona*, on the Adriatic coast, 132 miles n. n. e. of Rome, is a busy commercial town, with a fine harbour, formed by an ancient pier or mole 2000 feet in length.—*Perugia*, 90 miles north of Rome, has some silk manufactures, and possesses a University. In its neighbourhood is the lake of Perugia (the ancient *Thrasymenus*), famous for the great victory gained by Hannibal over the Romans, B.C. 217.

The small town of *San Marino*, 36 miles to the south of Ravenna, and 56 miles to the north of Perugia, is the capital of a sovereign republic, which embraces an adjacent area of about 22 square miles, and has in all a population of between 7000 and 8000.

4. KINGDOM OF NAPLES AND SICILY, OR THE TWO SICILIES.

(419.) The continental part of the Neapolitan territory is divided into 15 provinces or intendancies. The most northern portion, adjacent to the Papal States, forms the district of the Abruzzo (divided into two parts, *Ultra* and *Citra*),—that which lies round the city of Naples, between the Mediterranean and the Apennines, is called the Terra di Lavoro, — the extreme southern part of the peninsula towards C. Spartivento, forms the provinces of Calabria *Ultra* and *Citra*, — and the more eastern peninsula constitutes the province of Otranto. The names of the other intendancies are Molise, Capitanata, Principato (*Ultra* and *Citra*), Terra di Bari, and Basilicata.

The island of Sicily is divided into seven intendancies.

The principal cities are as follow: —

Towns, with population.

Continental Naples -	Naples, 416,000—Foggia, 20,000—Bari, 21,000—Barletta, 19,000—Reggio, 18,000—Castelamare, 18,000—Capua, 8000—Gasta, 14,000—Taranto, 18,000—Lecce, 14,000—Salerno, 19,000—Cosenza, 9000—Brindisi, 6500—Otranto, 4000—Amalfi, 3000.
	Island of Sicily - - Palermo, 200,000—Messina, 97,000—Catania, 36,000—Trapani, 25,000—Marsala, 21,000—Monreale, 13,000—Caltanissetta, 16,000—Girgenti, 17,000—Siragusa, 16,000.

(420.) *Naples*, the capital of the kingdom, is beautifully situated on the north side of a fine bay of the Mediterranean, called by its name. It rises from the shore up the slope of the hills, and nothing can exceed the striking character of its general aspect when viewed from the bay, or the varied beauty of its immediate environs. Naples is about 9 miles in circumference; some of its buildings are commanding and solid, and its streets wide and straight, yet, relatively to its extent and importance, it contains few edifices which can be compared with those of the other great cities of Italy. It is the seat of a crowded and noisy, though indolent, population: nearly every trade and amusement are carried on in the open air, and the streets swarm with people of every grade, among whom the *lazzaroni*—a houseless and vagabond class, who live alternately by every description of roguery, combined with occasional labour—are particularly numerous. Naples is the seat of a University, and possesses four large public libraries, one of which (the Bourbon Library) contains 150,000 volumes.

In the neighbourhood of Naples are many places of interest; among these is *Puzzuoli* (on the shores of the bay, about 6 miles to the west), the ancient Puteoli,—at which the Apostle Paul landed on his journey to Rome (Acts xxviii. 13.) It contains the remains of an amphitheatre and other ancient buildings.

To the south-east of Naples is Mount Vesuvius, the lower slopes of which extend to the shores of the bay; at its foot are the ancient cities of *Herculaneum* and *Pompeii*, buried under the ashes ejected from the mountain during a memorable eruption in the year 79 A.D., and only

discovered and partially excavated in the course of the last century. Herculaneum lies 5 miles from Naples, immediately adjacent to the eastern shores of the bay, and is still partly covered by the large modern village of Resina. Pompeii is situated further to the south-east, 12 miles distant from Naples (near the modern town of Torre delle Annunziata); great part of it has been cleared from the ashes under which it had so long lain buried, and it exhibits to view the full picture of what a Roman city was,—temples, theatres, baths, private habitations, the shops of the different trades, and the implements with which they were pursued.

The other towns in the continental part of the kingdom are all of very inferior importance to the capital. *Capua*, on the left bank of the river Volturno, 18 miles to the north of Naples, is situated in the midst of a highly fertile district, and is a strongly fortified place; it is partly built out of the ruins of the ancient city of the same name, at $2\frac{1}{2}$ miles distance, and of which some remains still attest the importance. *Gaeta*, on the coast further to the northward, is a place of some trade, with an excellent harbour. *Salerno*, on a gulf of the same name to the south-east of the Bay of Naples, is an important commercial city, and is noted for its ancient school of medicine. On the south side of the rocky tongue of land which divides the Gulf of Salerno from the Bay of Naples is *Amalfi*, a place of great commercial importance during the middle ages, but now entirely decayed.

Taranto (the ancient Tarentum), at the north-east corner of the gulf to which it gives name, is a small commercial city, with some extensive salt-marshes in its vicinity. *Reggio* (anciently Rhegium), on the east side of the Strait of Messina, and nearly at the southern extremity of Italy, is a place of considerable trade, and is memorable in connection with the history of St. Paul (Acts xxviii. 13.).

The seaport of *Brindisi*, on the Adriatic coast, now a place of little importance, represents the ancient Brundisium, one of the most flourishing cities of the Roman period. It was also large and populous during the middle ages. *Otranto*, to the south-eastward, lies at the narrowest part of the entrance to the Adriatic, and possesses some trade.

Bari, a small seaport on the Adriatic, is to the n.w. of Brindisi. Near Canosa, an inland town to the w. by n. of Bari, the village of Canne (ancient *Cannæ*) commemorates the victory of Hannibal, B.C. 216.

(421.) *Palermo*, the chief city of Sicily, is finely situated upon a bay on the north coast of the island, and is the seat of an active commerce. It has a University and several other literary establishments, and is altogether a spacious and well-built city. *Messina*, at the north-east corner of the island, and on the west side of the strait which divides it from the mainland, though smaller than Palermo, is fully equal to it in commercial importance. Its harbour is one of the finest in Europe, and its environs are the best cultivated and most thickly inhabited part of Sicily. The channel between the island of Sicily and the Italian peninsula is called the Strait of Messina.

About 40 miles to the south-west of Messina is Mount Etna (Art. 47.); near the foot of Etna, on the east coast of the island, is the sea-port of *Catania*, which has some silk manufactures, and is of commercial importance, though it has frequently been overthrown by earthquakes. Thirty miles further to the south is *Siragusa*, a small commercial town, built amongst the extensive ruins of the ancient Syracuse, one of the most flourishing sea-ports of antiquity.

Marsala, a considerable sea-port at the western extremity of Sicily, is celebrated for the wine called by its name, in the export of which it carries on a great trade. Eighteen miles to the north is *Trapani*, a busy commercial town, the inhabitants of which are largely engaged in the coral-fishery (Art. 77.).

(422.) The present political condition of Italy exhibits a state of transition. The Venetian territory is merely a province of Austria, only maintained under the sovereignty of that power by the strictest military rule. Lombardy, which had previously formed part of Austrian Italy, became transferred to the Sardinian crown by the brief Italian war of 1859, as a result of the victories gained by the united arms of Napoleon III. and Victor Emmanuel, the Sardinian king. The Kingdom of Sardinia is the only part of Italy which has hitherto enjoyed the advantages of constitutional government, and in which the free expression of opinion has been tolerated. It possesses two chambers, which meet annually, and share the legislative power with the sovereign. Tuscany, Parma, and Modena, though nominally independent states, were in reality mere dependencies of Austria, ruled by members of her royal house, and subject in all regards to Austrian influence. Under the influence of the enthusiasm awakened by the Italian war of 1859, these states expelled their unpopular rulers, and allied themselves with the Sardinian monarchy. A like alliance was effected by the inhabitants of the Æmilian territory, or Romagna, previously the northerly portion of the Papal Dominions. The result of more recent efforts in behalf of Italian liberty is yet undecided.

The States of the Church (under the sovereign dominion of the Pope, aided by the College of Cardinals), and the Kingdom of Naples and Sicily, have notoriously constituted despotic governments of the most bigoted and intolerant description.

(423.) The Roman Catholic religion prevails almost universally throughout Italy, and the clergy form a very numerous part of the population. There are, however, a great number of Jews in the principal towns and marts of trade, especially at Rome, Leghorn, and Venice, as well as many Greek and other foreigners.

Education is scarcely known among the lower classes of Italy, and the grossest superstition and ignorance prevail. Partial exceptions to this occur; but the means provided for the instruction of the people are for the most part defective. Elementary schools are now, however, widely diffused throughout the Sardinian states, besides superior institutions for instruction of a higher order.

Universities are numerous, and are established in most of the principal towns: but they have fallen from their former importance, and the studies pursued in most of them have little reference to the practical requirements of the present age. Notwithstanding these drawbacks, however, the upper classes of Italians are a highly cultivated people, and their country has always been the native home of arts and literature. The institutions for the promotion of the fine arts are numerous, and are placed in connection with schools in which painting, sculpture,

and architecture, are taught by competent masters : the most important of these are at Rome, Florence, and Bologna.

Italy contains a great number of public libraries, many of which are exceedingly rich in ancient manuscripts and books of rare value, though generally deficient in works of science and modern literature. Museums and galleries of art are numerous in all the principal towns, and those of Florence, Rome, and Naples, are especially distinguished, and are the admiration of the whole civilised world. Indeed, throughout the country, every palace of the nobility, and every public building, is a cabinet of art ; and each city boasts of its antiques or its collections of modern works. Picture-galleries are found everywhere, and the churches are generally adorned by exquisite pieces of painting and sculpture, as well as distinguished by their architectural beauty.

(424.) The islands of Malta, Gozo, and Cumino, situated 50 miles to the south of Sicily, belong to Great Britain, and form a colony which, though small in size, is of great importance as a maritime station for the protection of British commerce in the Mediterranean, and as one of the stages or resting-places on the overland route to India. Their united area is 122 square miles ; Malta alone is 95 square miles in area.

The natural features of the Maltese islands have been referred to in Art. 47. Their united population amounted in 1857 to upwards of 140,000, a number which is surprisingly large, and which shows how much can be accomplished by industry in the improvement of a soil naturally barren. The greater part of the land in Malta is planted with cotton ; the island also produces wheat, barley, and other grains. In Gozo the pastures are extensive, and great numbers of cattle are reared, chiefly for the use of the more numerous population of Malta ; cotton and grain are also cultivated with success. Both islands produce grapes and other fruit of excellent quality, and in Malta orange and lemon trees are numerous, though the water required to maintain their growth is obliged to be preserved in cisterns dug in the rock for the purpose of collecting the rains. Bees are also numerously kept, and the honey is particularly fine. Besides the food produced by the soil, extensive fisheries are carried on for the daily supply of the markets.

The inhabitants are a mixed race, and speak a dialect which bears much resemblance to the language of the Arabic population of the opposite shores of Africa, but Italian is understood by the mercantile and higher classes, and English is becoming more generally taught in the schools. The Maltese are altogether a robust, active, and temperate people ; they are Roman Catholics in religion, and generally ignorant and superstitious ; but education, under the direction of the English residents, is at present making some progress.

The capital, and only considerable town of these islands, is *Valetta*, on the north-east coast of Malta, built upon a tongue of land which extends into a bay, and forms an excellent harbour on either side. The town and suburbs are surrounded by strong fortifications, part of which are cut out of the solid rock. It is a bustling and active place, and has great trade, serving as a depôt for the articles of British commerce with the countries of the adjacent mainland.

To the westward of Valetta, upon the north coast of Malta, is the small *Porto de San Paolo*, or Harbour of St. Paul, supposed to have been

the scene of the shipwreck of the Apostle on his voyage to Rome. Melita was the ancient name of the island, and the inhabitants of Malta still preserve several traditions in connection with this interesting and memorable event (Acts xxvii., xxviii.). *Civita Vecchia*, the former capital of Malta, is situated on high ground nearly in the centre of the island.

The Maltese islands have filled an important place in history. In ancient times, they were in the successive occupation of the Phoenicians, the Greeks, the Carthaginians, and the Romans. From the Eastern Empire (to which, on the division of the Roman world, it fell), Malta passed—after two brief periods of occupation by the Arabs—to the Norman rulers of Sicily, and subsequently to the Emperor Charles V. of Germany. In 1530, Charles V. granted these islands to the Knights of St. John, who had recently been compelled to surrender Rhodes—their previous possession—to the Turks. The Knights of St. John retained possession of them until 1798, when they were taken by a French fleet. Two years later, after a close blockade, both by sea and land, during nearly the whole intervening period, Valetta surrendered to the English, in whose possession the islands have since remained.

SECTION IV.—SPAIN.

(425.) *Boundaries, Extent, &c.* — The south-western peninsula of Europe is unequally divided between the two kingdoms of Spain and Portugal. Spain is by much the larger of the two, and occupies five-sixths of the entire peninsula: Portugal is confined to a narrow strip along the western coast. But the two countries form together one physical region, the peculiar characteristics of different parts of which have been already dwelt on (Art. 88.).

Spain is bounded on the north by the Bay of Biscay and the chain of the Pyrenees; on the east by the Mediterranean; on the south by the Mediterranean, the Strait of Gibraltar, and the Atlantic Ocean; and on the west by Portugal and the waters of the Atlantic. Its greatest extent from N. to S. is 540 miles, and from E. to W. (between the shores of the Gulf of Lyons and the Atlantic Ocean at Cape Finisterre) about 650 miles. But further south the breadth of the country is narrowed by the adjacent kingdom of Portugal, which intervenes between the Spanish frontier and the western coasts of the peninsula.

The total area of Spain (including the Balearic Islands) is about 196,000 English square miles, — more than three times the size of England and Wales, and above twice the magnitude of the entire island of Great Britain. The whole peninsula has a square and compact shape, and in this respect

contrasts remarkably with the Italian and Grecian peninsulas, especially with the latter. Hence, although the length of coast-line is considerable, there are still large interior tracts which possess no maritime frontier, and are removed from the influences of oceanic climate and vegetation.

(426.) *Surface, Rivers, &c.* — The interior of Spain consists of high table-lands, — the northern part, of lofty mountains which rise from the shores of the Bay of Biscay and the Atlantic, — and the south and south-east, of fertile plains sloping towards the ocean and the Mediterranean. The highest mountains occur in the chains of the Sierra Nevada, near the south coast, and the Pyrenees, on the borders of France, in both of which the principal summits rise above the snow-line (Art. 27.).

The principal rivers are the Ebro, the Xucar, and the Segura, falling into the Mediterranean; — and the Guadalquivir, the Guadiana, the Tagus, the Douro, and the Minho, into the Atlantic. But the lower courses of two of the latter (the Tagus and the Douro) belong to the kingdom of Portugal, and the portions of their streams within the Spanish frontier do not possess sufficient depth of water to be capable of navigation. The Guadiana and the Minho are both frontier streams.

The rivers on the northern coast are numerous, but of short courses; they irrigate the land abundantly, but are not deep enough for navigation.

There are no lakes of any magnitude, but shallow lagunes occur on some parts of the Mediterranean coast.

(427.) The climate and vegetation of the different parts of Spain have been described in Art. 88. Among the wild animals are the bear, the wolf, and the wild-boar, found in the colder and more mountainous tracts, and the lynx, the chamois, and the ibex, among the higher recesses of the Pyrenees. The mineral produce is rich and varied, and the mines are extensively worked in some places (Art. 58.). Precious stones are also found in several parts of the peninsula; and granite, jasper, alabaster, and marbles of the greatest beauty and variety, may be quarried from almost every mountain.

In the neighbourhood of Olot, in the N. E. part of Catalonia, and near the south foot of the Pyrenees, is a remarkable volcanic district, which extends about 15 miles in length by 6 in breadth. Within this tract there are 14 distinct cones of extinct volcanoes, with craters, besides several other points from which lavas may have formerly issued.

(428.) *Divisions.* — Until lately, Spain consisted of thirteen provinces, of very unequal size, and many of them of large extent; some of these were formerly separate kingdoms, and

their names are still of frequent and familiar reference in the pages of history. But in 1833 the country was divided into 47 provinces, of smaller and more equal size: the Balearic Islands and the Canary Islands also form two provinces, making the whole number forty-nine.

The older and better-known divisions of the country may be arranged under the heads of the northern, middle, and southern provinces.

The *northern* provinces (beginning at the west and proceeding eastward) are Galicia, Asturias, Biscay, Navarre, Aragon, and Catalonia. — Galicia occupies the north-western corner of the peninsula, facing the Atlantic Ocean and the Bay of Biscay: — the provinces of Asturias and Biscay extend along the southern shores of the bay: — Navarre, Aragon, and Catalonia, lie to the south of the Pyrenees, and the last-mentioned terminates on the east upon the coast of the Mediterranean.

The *middle* belt of Spain embraces the provinces of Leon and Estremadura, in the west; Old and New Castile, in the centre of the peninsula; Valencia and Murcia, on the eastern and south-eastern coasts.

In the *south* is the large territory of Andalusia, which extends from the frontier of Portugal along the whole southern coast of Spain.

(429.) The population of Spain (including the Balearic and Canary Islands) amounted in 1857 to a total of 15,464,000, equivalent to an average of seventy-nine inhabitants to the square mile.

Spain is one of the least populous portions of Europe, the only countries below it in this respect being Scandinavia, Russia, Greece, and Turkey. The mountainous districts in the north, and the province of Valencia in the south-east, are the parts in which the inhabitants are most numerous, and these are the most active seats of industry. The province of Estremadura, and the two Castiles, in the centre, are the most thinly-inhabited: in some parts of New Castile the ratio of population scarcely exceeds that of Sweden.

The average density of the Spanish population is less than a third part that of Great Britain, and considerably lower than a fourth part that of England only. But the high and arid plateaus of the interior are naturally ill adapted for the support of any large number of inhabitants. Various social causes, combined with the frequent wars in which the country has been engaged, have tended to keep down the number of its inhabitants.

The natives of the different provinces of Spain differ from one another in character, manners, appearance, and even in dialects of speech, to almost as great an extent as the inhabitants of different countries. The

inhabitants of the northern provinces—that is, the Galicians, the Asturians, and Biscayans,—are the most laborious and industrious people; and the latter are especially distinguished by their lively, social, and fiery temperament. The Galicians (or Gallegos) are the universal labourers over the whole of the peninsula. The Castilians are proud, gloomy, and taciturn, noted for their high sense of honour, and their solemn and stately bearing. The people of Estremadura and Murcia are less enterprising than those of Catalonia or Valencia, and the Murcians in particular are regarded as possessing all the worst faults of the Spanish character, being at once indolent, plotting, and suspicious. These differences are doubtless in a great measure owing to the mixed descent of the Spaniards from the Goths and other foreign conquerors of the country; and the inhabitants of Andalusia are still characterised by many points of resemblance to the Moors (a people of Northern Africa), by whom that part of the country was long possessed.

The Spanish language is only spoken in purity in the provinces of Castile; it is a mixed tongue, the result of a combination of the Teutonic with the Latin (Art. 81.). The inhabitants of Biscay and the adjacent provinces speak a totally different dialect, called the Euskarian or Basque.

(480.) *Industrial pursuits.*—The *agriculture* of Spain embraces a great variety of articles; but the produce is much less than the capabilities of so extensive a country would warrant, owing in great measure to the exceedingly backward state of husbandry. The implements employed are generally of the rudest kind, and scientific agriculture is in many parts of the country almost unknown. The uncultivated land constitutes no less than 46 per cent. of the whole area of Spain, and in many parts the quantity of corn raised is insufficient for the consumption of the inhabitants. A very considerable increase in the amount of produce has taken place, however, within recent years. Wheat, maize, rye, and barley, are grown in the northern and central provinces: some parts of Old Castile and Leon yield fine crops of wheat. A great deal of excellent wheat is also grown in Andalusia, and some rice in Valencia.

The vine and the mulberry are the characteristic objects of agriculture in the south and south-east of Spain. The vine is very extensively grown in Andalusia, and the sherry wine so largely consumed in our own country is almost wholly derived from that province. The grape is also an object of cultivation all along the eastern coasts of the peninsula, and a considerable portion of the produce is exported in the form of dried fruit. The raisins of Malaga and Seville (in Andalusia), and of Alicant (in Valencia), are highly esteemed. The mulberry is very extensively cultivated in

Valencia, and silk is produced in sufficient quantity to form an important article of export, besides supplying some amount of native manufacture. A kind of pepper is extensively grown in Murcia, and forms a considerable article of trade with the interior. The total amount of agricultural produce shows a vast increase within a recent period, especially in regard to the vine and the olive.

Three-fifths of the surface of Spain are, however, devoted to pasturage, and the flocks of sheep are immense. The breed of the Spanish merino is distinguished by the fineness of its wool, and was formerly confined to this peninsula, but it has now been crossed with the native breeds in most European countries. The central provinces of Castile and Leon embrace the chief pasture grounds of Spain (Art. 88.).

Goats, oxen, and swine, are also numerous. The tanning of hides forms an important branch of industry in Galicia and some other parts of Spain. The horses are descended from the Arab breed introduced by the Moors, and are distinguished by their beauty and activity. But mules are more generally used for purposes of travelling, and are preferred for their superior sureness of foot in passing over the mountain-roads.

In 1858, the total number of live-stock and cattle in Spain was upwards of 20,000,000. Nearly 14,000,000 of these were sheep; above 2,700,000 goats; 1,381,000 cattle; and upwards of 1,000,000 swine—the remainder consisting of asses, mules, and horses.

There are considerable fisheries on some parts of the coast; both the anchovy and pilchard are numerously taken off the shores of Galicia.

(431.) *Manufactures* are not characteristic of Spain, and all branches of manual industry are generally at a low ebb, in every part of the peninsula. The manufacture of silk goods is the most considerable, and is carried on in Valencia, — and also, to a less extent, in some other parts of the country. The tissues, gauzes, and ribands, produced by the looms of Valencia almost rival those of France. Woollen cloths are made in Catalonia and Aragon; linen, in Galicia, whence it is supplied to the interior provinces, and some of it exported in exchange for French goods and colonial produce. Cotton fabrics are likewise made in Valencia, which town is noted for its beautiful dyes. Leather is extensively prepared in some of the provinces; the kind called Spanish leather (prepared with nut-galls) is chiefly produced at Seville (in the western part of Andalusia). Ferrol and Vittoria (in the northern provinces of Galicia and Biscay) also possess a great number of tanneries.

The provinces along the Bay of Biscay and the Pyrenees contain numerous iron-works, and the manufacture of arms

is largely carried on in Biscay. Swords and other weapons are extensively made at Toledo (in New Castile) and at Albacete (in Murcia).

The chief supply of manufactured articles of every kind is, however, derived from abroad, — chiefly from France and England; and the fruits, wool, and mineral produce of Spain constitute its real sources of wealth.

Upon the coast of Murcia and Valencia the substance called *barilla*, an alkali obtained from the ashes of various marine plants, is extensively produced, and is an article which can nowhere else be obtained of such good quality. Barilla is properly the Spanish name of one of the plants from which the salt is obtained, and the ashes of which contain a larger amount of soda than any other species of marine vegetation. The barilla of Spain is largely exported to Britain and other countries, and is an article of extensive use in our glass-works, as well as in bleaching and other similar processes. The best is obtained from Alicant, in Valencia. Its use has to a large extent superseded that of the kelp formerly prepared on the western coasts and islands of Scotland (Art. 163.).

(432.) *Commerce.* — The *exports* of Spain are wines and brandies, fresh and dried fruits, wool, silk; barilla, salt, quick-silver, lead, cobalt; skins, olive-oil, cork-wood, with various dyes, and varnish. These are chiefly supplied to France and England, with which countries the greater part of the foreign commerce is carried on, the latter receiving the larger proportion of the wool and barilla, and all the best wines of the southern coast.

The *imports* embrace every variety of manufactured articles, with sugar, coffee, spices, and other colonial produce; besides an extensive supply of salt-fish, which are very largely consumed in all the Catholic countries bordering on the Mediterranean. The manufactured goods, including cotton, linen, woollen, fire-arms, and hardware, are chiefly derived from Great Britain, — the sugar, &c., from the Spanish colonies in the West Indies, and the salt-fish from the countries of north-western Europe (Art. 338.).

Many of the ports on the Atlantic and the Mediterranean coasts of Spain are the seats of an active trade, and ship-building is extensively pursued at several of the small sea-port towns in the provinces of Galicia and Catalonia, on the opposite sides of the peninsula. Cadiz, in the south-west, is the principal seat of the wine trade; Malaga and Alicant (on the south and south-east coast) of the export of fruits and silk; and Barcelona, in the north-east, of the ge-

neral produce of the country. The ports on the northern coast are the chief seats of the trade in wool, leather, and iron, and the two former of these articles are also largely exported both from Cadiz and Seville, in the south-western provinces.

(433.) *Internal communication.* — The mountain-chains which extend across the Spanish peninsula form so many natural impediments to communication between its different provinces, and very little has been accomplished in the way of overcoming the obstacles which they occasion. Even the high roads between the principal towns are in the worst possible condition, and the impediments to travelling are greater both in Spain and Portugal than in almost any other part of Europe.

Over the greater part of the peninsula there are literally no roads but such as have been worn by the carts of the villagers ; and as it is only in very few cases that bridges have been constructed, the rivers generally have to be forded,—an operation in which serious delays sometimes occur, from the sudden swelling of the streams by the mountain rains. The only aids in crossing the mountains are tracks worn by the feet of mules during a long series of years. Yet the more hilly portions of Spain are generally better provided with roads than other parts of the country, especially the provinces of Biscay and Navarre, where they are more numerous and kept in better condition than elsewhere : in some parts of Catalonia, also, the roads are tolerably good.

Above five hundred miles of railway are already open in Spain, and other extensive works of the kind are in progress. The most considerable of the existing lines is that which connects the Spanish capital with Alicant and Valencia, by way of Albacete (in Murcia), a great centre of inland traffic.

The rivers are not generally navigable, but canals have in some cases, been constructed along their banks or between the various tributaries of their basins. These, however, are not used for traffic to any considerable extent. The continuity of the mountain-chains of course interposes serious difficulties in the way of any union between the waters of the different river-basins. Hence, unlike so many other European countries, Spain has no water-communication between the seas which wash its opposite coasts,—nor, indeed, any between its different provinces, except in cases where these lie within the valley of the same stream. There are numerous canals for irrigation in some of the provinces bordering on the Mediterranean.

(434.) *National divisions.*—The names of the 49 provinces into which Spain is now divided are in almost all cases taken from their respective capitals. But the older divisions still mark the characteristic lines of separation between the people of different parts of the country, and their various habits and pursuits.

The names of the present divisions of Spain, together with those of the more ancient divisions to which they chiefly correspond, are given in the following Table :—

New Provinces.	Old Provinces.	New Provinces.	Old Provinces.
Madrid Toledo Ciudad-Real Cuença Guadalaxara	} New Castile	Valencia Alicant Castellon-de-la-Plana	} Valencia
Burgos Logrono Santander Avila Segovia Soria Valladolid Palencia		Barcelona Tarragona Lerida Gerona	
Leon Salamanca Zamora		Saragossa Huesca Teruel	
Badajos Caceres		Pamplona	
Cordova Jaen Granada Almeria Malaga Seville Cadiz Huelva		Vittoria Bilbao St. Sebastian	
Murcia Albacete	} Murcia	Oviedo	Asturias
		Corunna Lugo Orense Pontevedra	} Galicia
		Balearic Islands	
		Canary Islands.	

(435.) *Towns, &c.*—The principal towns in the different parts of Spain, with their populations, are as follow:—

Provinces.	Towns, with Population.
New Castile - - -	<i>Madrid</i> , 302,000— <i>Toledo</i> , 15,000— <i>Cuença</i> , 6000— <i>Ciudad-Real</i> , 10,000— <i>Guadalaxara</i> , 2000— <i>Talavera de la Reyna</i> , 6000— <i>Almaden</i> .
Old Castile . - -	<i>Santander</i> , 16,000— <i>Burgos</i> , 10,000— <i>Segovia</i> , 15,000— <i>Logrono</i> , 8000.— <i>Avila</i> , 4000.
Leon - - - - -	<i>Valladolid</i> , 21,000— <i>Salamanca</i> , 14,000— <i>Palencia</i> , 11,000— <i>Zamora</i> , 9000— <i>Leon</i> , 7000— <i>Ciudad Rodrigo</i> , 4800— <i>Astorga</i> , 2800.
Extremadura - -	<i>Badajos</i> , 11,700— <i>Olivença</i> , 6000— <i>Guadalcanal</i> .
Andalusia - - -	<i>Seville</i> , 152,000— <i>Cadiz</i> , 72,000— <i>Puerto de Sta Maria</i> , 18,000— <i>Xeres de la Frontera</i> , 34,000— <i>Granada</i> , 101,000— <i>Malaga</i> , 113,000— <i>Cordova</i> , 42,000— <i>Ecija</i> , 24,000— <i>Jaen</i> , 19,000— <i>Almeria</i> , 19,000— <i>Ronda</i> , 14,000— <i>San Lucar</i> , 17,000— <i>Ossuna</i> , 15,000— <i>Motril</i> , 10,000— <i>Medina Sidonia</i> , 10,000— <i>Palos</i> .
Murcia - - - -	<i>Murcia</i> , 100,000— <i>Lorca</i> , 48,000— <i>Cartagena</i> , 34,000— <i>Albacete</i> , 15,000— <i>Chinchilla</i> , 10,000.
Valencia - - -	<i>Valencia</i> , 146,000— <i>Alicant</i> , 19,000— <i>Orihuela</i> , 17,000— <i>Elche</i> , 18,000— <i>Alcoy</i> , 27,000— <i>San Felipe, or Xativa</i> , 13,000— <i>Castellon-de-la-Plana</i> , 17,000— <i>Murviedro</i> , 6000.
Catalonia - - -	<i>Barcelona</i> , 252,000— <i>Reus</i> , 28,000— <i>Tortosa</i> , 20,000— <i>Olot</i> , 14,000— <i>Lerida</i> , 12,000— <i>Mataro</i> , 13,000— <i>Vich</i> , 10,000— <i>Tarragona</i> , 13,000— <i>Cadaques</i> , 2800.
Aragon - - - -	<i>Saragossa</i> , 82,000— <i>Tarrazona</i> , 6000— <i>Calatayud</i> , 7000— <i>Teruel</i> , 7000.
Navarre - - - -	<i>Pamplona</i> , 16,000— <i>Tudela</i> , 8000.
Biscay - - - -	<i>Bilbao</i> , 10,000— <i>Vittoria</i> , 10,000— <i>St. Sebastian</i> , 10,000.
Asturias - - - -	<i>Oviedo</i> , 10,000— <i>Gijon</i> , 6000.
Galicia - - - -	<i>Corunna</i> , 20,000— <i>Santiago de Compostella</i> , 29,000— <i>Ferrol</i> , 16,000— <i>Vigo</i> , 6000.
Balearic Islands -	<i>Palma</i> , 40,000— <i>Port Mahon</i> , 13,000.
Canary Islands -	<i>Santa Cruz</i> , 9000— <i>Laguna</i> , 8000— <i>Las Palmas</i> , 18,000.

(436.) *Madrid*, the capital of Spain, is situated on the banks of the small river Manzanares (a tributary of the Tagus), in the centre of the kingdom, and at an elevation of 2200 feet above the sea. It is nearly 8 miles in circuit, and is surrounded by walls. The houses are generally lofty and well built, and the streets wide, but the whole city has a sombre and gloomy aspect. The most favourite place of resort in Madrid, both to residents and strangers, is the *Prado*, a broad and spacious walk on the east side of the city, two miles in length, and adorned with rows of trees and fountains. The royal palace, on the banks of the Manzanares, is a magnificent building, and there is a splendid picture-gallery of recent erection. The National Library of Madrid contains 200,000 volumes.

The situation of Madrid is exceedingly arid, but the city is supplied with water brought from the mountains at 30 miles distant. The climate is intensely hot in summer, and the adjacent country unattractive and sterile. At a distance, however, are several royal residences, of which the most celebrated is the palace of the *Escorial*, 27 miles to the n. w. of the capital, lying at the southern foot of the Castilian Mountains, and at an elevation of 3264 feet above the sea. The *Escorial* contains the splendid mausoleums of many of the sovereigns of Spain, and also a fine collection of pictures, a library of 100,000 volumes, and a college.

Toledo, one of the most ancient and celebrated cities of Spain, lies on the north bank of the Tagus, 40 miles to the s. w. of Madrid. It was formerly the capital of the kingdom, and is still the see of the ecclesiastical primate : it contains a magnificent cathedral. But the manufactures which it once possessed have decayed, and the town is now of little importance. The making of sword-blades is still carried on, though upon a greatly diminished scale. *Talavera de la Reyna*, a small town on the Tagus, below Toledo (70 miles s. w. of Madrid), is famous for the great victory of 1809, gained by Wellington over the French army. *Guadalajara*, 27 miles n. of Madrid, has some considerable cloth-works. *Ciudad-Real*, in the s. part of Castile, is the chief place in the district of La Mancha, in which the imaginary exploits of Don Quixote are described to have had their origin. The names of the renowned knight and his doughty squire are familiar to the district, and the common dress of the peasantry still reminds the traveller of the descriptions given of that of honest Sancho Panza.

Burgos, in Old Castile (situated near the Arlanzon, a small tributary of the Douro), has, like so many of the other towns in Spain, greatly declined from its former importance. It abounds in churches and convents, and contains a magnificent cathedral. *Segovia*, at the north foot of the Castilian Mountains, has some cloth-works, formerly of great celebrity. It is a very ancient town, and contains various remains of Roman occupation. Near it on the s. e. is the royal palace of *San Ildefonso*, or *La Granja* (43 miles distant from Madrid), finely placed in a recess of the mountains, at an elevation of about 4000 feet above the sea. *Santander*, on the shores of the Bay of Biscay, is a considerable and flourishing seaport town.

Valladolid, once the capital of the Spanish monarchy, has greatly declined in splendour and importance ; like all the principal cities in the peninsula, it contains a fine cathedral. Valladolid stands at the confluence of the Pisuerga and Esgueva, two small tributaries of the Douro.

The former kingdom of Leon, within which it is situated, is sometimes regarded as included within the general limits of Castile. *Salamanca*, on the banks of the Tormes, an affluent of the Douro, was once much celebrated for its University, which is now of little importance. It is a very ancient city, and has remains of Roman works, besides a fine cathedral of later date. *Ciudad Rodrigo*, (57 miles s. w. of Salamanca), is a small town and fortress on the river Agueda, which joins the Douro, and is noteworthy on account of the important part which it played during the Peninsular War. It was taken by the French in 1810, and successfully stormed by the English in 1812.

Badajos, on the s. bank of the Guadiana, at the confluence of a small tributary stream, and close to the Portuguese frontier, occupies an important military position, and is a fortress of great strength. It is chiefly noted in modern times for the memorable sieges it sustained during the Peninsular War, in 1811 and the following year. In the former of these it was taken by the French: in 1812, the British army, under Wellington, became its possessors. Badajos has some manufactures of coarse cloth and soap, and carries on considerable contraband trade across the adjacent Portuguese frontier. The village of *Albuera*, thirteen miles s. by e. of Badajos, was the scene of a sanguinary engagement, in 1811, between the French and Anglo-Spanish armies, in which the former was defeated.

Seville, on the left bank of the Guadalquivir, was long regarded as one of the most splendid cities of the kingdom, and was the seat of an extensive silk manufacture and of great trade. But it has declined in importance, and is now gloomy and comparatively deserted: it still contains some splendid buildings, foremost among which is its cathedral. Seville possesses a University, with some other literary establishments. Its chief present trade consists in the export of oranges.

Cadiz, long the principal seat of Spanish commerce, is built on the extremity of a narrow tongue of land projecting into the sea from the Isle of Leon, which adjoins the mainland about midway between the Strait of Gibraltar and the mouth of the Guadalquivir. The isthmus which unites it to the broader part of the island is strongly fortified, and the arm of the sea inclosed between it and the mainland forms a spacious bay, with excellent anchorage. The importance of Cadiz has very greatly declined since the former American possessions of Spain acquired their independence: it possesses, however, the greater part of the trade with the remaining Spanish colonies in the West and East Indies. On the eastern side of the Bay of Cadiz, at the mouth of the river Guadalete, is the town of *Santa Maria*, from which nearly the whole of the export of sherry wine takes place. The name of this wine is derived from the town of *Xeres*, a short distance inland, at which it is principally manufactured. On the coast, 31 miles s. e. of Cadiz, is Cape Trafalgar.

San Lucar, at the mouth of the Guadalquivir, is a thriving sea-port town, with some cotton manufactures, tanneries, and fisheries. The small town of *Palos*, on the coast to the westward, and only a short distance from the Portuguese frontier, is memorable as the port from which Columbus sailed on his great voyage of discovery across the waters of the Atlantic, A.D. 1492.

In the interior of Andalusia, at a distance of 73 miles n. e. from Seville, and on the right bank of the Guadalquivir, is the town of *Cor-*

Granada, once the capital of the Mohammedan dominions in Spain. It contains a magnificent mosque, erected during that period, but long since converted into a Christian church. Its manufactures have declined, and it is now of little importance.

Granada, on the banks of the river Darro (a tributary of the Xenil, which joins the Guadalquivir), stands in the midst of a beautiful *vega*, or plain, at the northern foot of the Sierra Nevada, and at a height of 2314 feet above the sea. Granada is famous for its remains of Moorish grandeur. It was the capital of the last Mohammedan dynasty in Spain, and contains the *Alhambra*, or palace of the Moorish kings, — one of the finest specimens in the world of Arabesque or Moorish architecture. Granada has in recent times had considerable manufactures of velvets and silk goods, but these have greatly declined of late years.

Jaen, an ancient city to the northward of Granada, and once the capital of a Moorish kingdom, is now of little importance. *Malaga*, on the coast of the Mediterranean, 53 miles s. w. of Granada, is a flourishing sea-port, with great trade in the export of wines, raisins, and other fruits.

Cartagena, on the coast of Murcia, commands the principal trade of that province, and possesses one of the finest harbours in the Mediterranean. It contains a naval arsenal, and was formerly one of the principal stations of the Spanish fleet. *Alicant*, further to the north, is a port of considerable trade, and exports wine, fruits, barilla, and other native produce. *Valencia* is a large town, delightfully situated on the banks of the river Guadalaviar, a few miles above its mouth. It is the chief seat of the silk manufacture, and one of the most thriving and industrious towns in Spain.

Barcelona, the capital of Catalonia, and the second city in the kingdom in amount of population, is an important manufacturing and commercial town, situated on the shores of the Mediterranean, about 83 miles to the n. e. of the mouth of the Ebro. It contains a fine cathedral, and also the former palace of the kings of Aragon. Barcelona is very ancient, having been founded about 200 years before the Christian era, and has in all ages been a place of commercial importance. On the coast to the north of Barcelona, towards the borders of France, are several small but flourishing sea-port towns, which enjoy considerable trade. The principal of these are *Mataro* (which has also important manufactures of cotton and silk), *San Felix de Guizols*, *Rosas*, and *Cadaques*. *Tarragona*, to the s. w. of Barcelona, is also a place of some trade.

Saragossa, divided into two parts by the river Ebro, on the banks of which it is situated, is an important town, chiefly noted in modern times for the memorable sieges which it sustained against the French, in 1808–9, during the Peninsular War. *Pamplona* (or Pampeluna), in Navarre, is one of the principal fortresses in Spain.

Bilbao, in the province of Biscay, and about ten miles to the s. of the bay of that name, has great trade in wool, and is a flourishing commercial town. *St. Sebastian*, the principal place in the province of Guipuscoa (one of the three districts into which Biscay was formerly divided), is a strongly fortified and flourishing sea-port, only a short distance from the borders of France. Both this town and that of *Vitoria* (50 miles to the s. w.) have been rendered memorable by the oc-

currences of the Peninsular War—the former, by its siege in 1813 (when it was successfully stormed by the British), and the latter through the victory gained by Wellington, in the same year.

Oviedo, in the hilly province of Asturias, is a place of some trade. *Gijon*, the principal port of the province, is a small but thriving town.

Santiago de Compostella, in the interior of Galicia, has a fine cathedral, and possesses one of the most flourishing Universities in Spain. It has also some manufactures of linen and silk. *Corunna*, on the sea-coast of Galicia, midway between the capes of Ortegal and Finisterre, is a flourishing commercial town, and one of the principal ports of the kingdom. It has manufactures of cigars, linen, hats, and cordage, and is strongly fortified. Fourteen miles to the N. E., and on the opposite side of a large bay, is *Ferrol*, also a place of considerable trade, and one of the three principal naval arsenals of the kingdom (the other two being Cadiz and Cartagena). It has one of the best harbours in Europe. *Vigo*, on a fine bay, some distance to the southward, is a flourishing port, with considerable trade.

(437.) The natural features of the *Balearic Islands* have been described in Art. 47. *Palma*, their principal town, lies at the head of a fine bay on the S. side of the island of Majorca, and possesses some trade. It is the seat of a University.—*Port Mahon*, on the east coast of Minorca, is a fortified commercial town, with one of the finest natural harbours in Europe.

(438.) The *Canary Islands* lie off the western coast of Africa, between the 27th and 30th parallels of N. latitude, and the meridians of 13° and 19° west of Greenwich. They consist of Grand Canary, Teneriffe, Fortaventura, Lanzarote, Palma, Gomera, Ferro, and some others of smaller size. The island of Fortaventura is about 64 miles distant from Cape Juby, the nearest point of the African mainland. The line of a great circle passing through Ferro, the most western of the group (18° west of Greenwich), constituted the meridian from which the ancients estimated their longitude, and is still used for that purpose by some modern nations.

The Canary Islands are all of volcanic formation, hilly and rugged, and their coasts often precipitous. Teneriffe, the largest, is 878 square miles in area, and its peak rises to the perpendicular height of 12,236 feet above the sea. The mountains in Grand Canary (the second in magnitude) exceed 6000 feet in elevation. Fortaventura is less mountainous than the others. Both this island and Lanzarote contain many craters of extinct volcanoes, and volcanic eruptions have taken place in the latter within a recent period.

Allegranza, one of the smaller islands of the group, situated to the northward of Lanzarote, is composed of a mass of lava and cinders, the produce of a volcano now extinct. It rises 939 feet above the sea; the edge of its crater is well defined, and the bottom of it is cultivated for barilla.

The Canary Islands generally enjoy a delightful and equable climate—(subject occasionally to severe droughts, which are more common in the eastern islands of the group)—and are for the most part very fertile.

Their principal produce consists of corn, dates, figs, lemons, and other fruits ; the sugar-cane, tobacco, cotton ; besides silk, honey, wax, orchilla, cochineal, and barilla.

The population of the Canary Islands is about 200,000, all of Spanish descent, since the native inhabitants (a race called the *Guanches*) have been wholly exterminated. The people are chiefly engaged in the cultivation of the grape and other fruits, and the preparation of barilla ; wine, brandy, barilla, and some other products, are exported. An extensive fishery is also carried on.

The towns of *Santa Cruz*, in Teneriffe, and *Las Palmas*, in Grand Canary, are the principal commercial ports ; and the former is the seat of government.

(439.) The present government of Spain is a limited monarchy, the legislative power being shared between the sovereign and an elective assembly called the Cortes. But the entire political condition of the country is still unsettled.

The Roman Catholic religion exclusively prevails, but the clergy have no longer the same control as formerly over the mind of the country at large, and the monasteries have been suppressed. Education is greatly neglected, and ignorance, bigotry, and superstition, very generally prevail. The cities of Madrid, Toledo, Valladolid, Seville, Salamanca, Granada, Valencia, Saragossa, Oviedo, and Santiago de Compostella, possess Universities, some of which formerly enjoyed a reputation equal to those of any country in Europe, but the studies pursued in them have little relation to the wants of society in the present age, and they have fallen into comparative neglect. The whole aspect of Spain, indeed, exhibits a vast decline from the importance which she once enjoyed. With the loss of her colonies in the New World, her place among foreign powers was greatly reduced, and a lengthened period of internal warfare operated most injuriously upon the internal condition of the country. Within recent years, however, Spain has undoubtedly made great progress in all the material elements of civilisation, especially in regard to agricultural produce and foreign trade.

The only remaining *Colonies* of Spain (besides the Canary Islands, which now form an integral part of the kingdom) are the islands of *Cuba* and *Porto Rico*, in the West Indies ; — part of the *Philippine Islands*, in the east ; — and some small possessions on the north coasts of Africa. These last consist of *Ceuta* (a fortress on the south side of the Strait of Gibraltar, and opposite to the town of that name), with 8000 inhabitants ; the little island of *Peñon de Velez*, further to the eastward, and the towns of *Al-buzema* and *Melilla*, on the adjacent mainland. Ceuta is used as a place of confinement for criminals.

(440.) *Gibraltar*, situated on the mainland of Spain, 59 miles to the S. E. of Cadiz, and built on the west side of a mountainous promontory which projects into the sea, is a British Colony, and has been in the possession of England since 1704, in which year it was taken from Spain by a British squadron. Several efforts for its re-capture have since been made, but always without success. The most important of these attempts was in 1778–83, when it was successfully defended by General

Elliott, against the combined attack of the Spanish and French fleets, aided by a powerful land force.

The tongue of land on which Gibraltar is situated is 3 miles in length from n. to s., and from $\frac{1}{2}$ to $\frac{3}{4}$ of a mile in breadth. It terminates to the south in Europa Point, at the eastern extremity of the Strait of Gibraltar. The isthmus which connects the promontory with the mainland is flat and sandy, and is protected by strong fortifications.

The north and east sides of the rock of Gibraltar form almost perpendicular precipices, and are nearly inaccessible ; the south and west fall towards the sea in rugged slopes, with occasional flats or terraces. The highest point is 1439 feet above the sea-level. The town is built at the north-western foot of the rock, and consists chiefly of one principal street about a mile in length. It has about 12,000 inhabitants, besides a considerable garrison. Every accessible part of the rock is protected by the most formidable batteries, and the whole forms a fortress of vast natural and artificial strength.

Gibraltar is under the administration of a Governor appointed by the British Crown. Its position at the entrance of the Mediterranean (of which it forms, as it were, the key) renders it of the highest importance as a naval station, and it forms a valuable depôt for the various articles of British produce intended for the supply of the adjacent parts of the Spanish and African mainlands. It is a station for the English packets engaged on the line of the overland route to India, and also for those employed in the general commerce of the Mediterranean. The Bay of Gibraltar is a fine inlet to the west of the promontory. On the opposite side of the bay is the small Spanish town of Algesiras, and further to the south-west is the fortified town of Tarifa, at the southern extremity of the European continent.

SECTION V. — PORTUGAL.

(441.) *Boundaries, &c.*—Portugal is bounded on the north and east by Spain, and on the south and west by the Atlantic Ocean. From north to south its greatest length is 365 miles, and its extreme breadth from east to west about 145 miles. Its superficial area is 35,260 English square miles,—about one-twelfth part greater than the dimensions of Ireland.

The coast line of Portugal exceeds 500 miles in length, and is of very various character : on the western side (to the south of the mouth of the Tagus) is the broad bay of Setubal, adjacent to which are extensive salt-marshes (Art. 58.). Cape St. Vincent and Cape Roca, the latter of which is the westernmost point of the European mainland, are both high and rocky.

(442.) *Surface, Rivers, &c.*—The whole surface of Portugal has a gradual slope towards the west, as indicated by the courses of the rivers, which (with the exception of the

Guadiana and a few unimportant streams) all flow in that direction. Three of the mountain-chains which cross the Spanish peninsula have their western termination within the limits of Portugal; these chains divide the basins of the different rivers, and cover with their various offsets almost the entire surface of the country. The highest elevations are found in the Sierra d'Estrella, the most western prolongation of the chain which crosses the plateau of Castile (Art. 27.).

The principal rivers are the Minho, the Douro, the Mondego, the Tagus, and the Guadiana,—all of which, excepting the Mondego, have the upper portions of their course in Spain (Art. 40.).

The Mondego drains a small area of country lying intermediate between the Douro and the Tagus, bounded by the Sierra d'Estrella on the east and south, and on the north and north-west by a less elevated range, which is an offset from the same mountain-system. This river has a length of about 115 miles; the district which it waters is remarkable for its excessive moisture (Art. 52.).

The Minho, Douro, Tagus, and Guadiana, all form, in small portions of their courses, the frontier between Portugal and Spain, but the greater part of the boundary between the two kingdoms is an artificial line, not marked by any striking natural features.

The climate and natural productions resemble those of Spain. The vine is especially characteristic of the northern provinces, and the olive,—with the orange, citron, lemon, and other fruits,—abounds in all parts of the country.

The minerals are various, but are little worked. Iron ore is abundant, and there are mines of lead, plumbago, and silver, with indications of other metals. Some gold mines were formerly worked, and the quantity of gold obtained by washing the sands of the rivers is said to have been considerable; but the produce from these sources is now very limited. One small gold mine is still wrought in the neighbourhood of Setubal. There are coal mines in some places, and this country (like Spain) abounds with the most beautiful marbles and building stones. In fact, the natural resources of Portugal are very considerable, and might under an industrious population be turned to great account; but they are almost wholly neglected.

(443.) *Inhabitants*.—The population of Portugal amounted in 1854 to 3,499,000,—an average of only 99 inhabitants to the square mile. The people are of the same lineage as the Spaniards, and speak a dialect of the same language: but they nevertheless cherish a deeply-rooted antipathy to their neighbours, to whom they are almost universally regarded as inferior in industry, social refinement, and moral elevation of character.

(444.) *Industrial pursuits.*—The *agriculture* of Portugal is in a very backward state, and the produce of corn is insufficient for the consumption of the people. Yet, when subjected to proper culture, the most abundant crops of wheat, maize, and other grains, are capable of being raised. The cultivation of rice is extensively pursued in the marshy grounds that adjoin the Tagus, and also in some parts of Algarve, near the coast. Hemp and flax of excellent quality are grown, and the quantity of land under cultivation has been much extended of late years. Olives are plentiful, and the oil made from this fruit is extensively exported.

But the principal article of industrial produce is the grape, which is extensively cultivated in the northern part of the kingdom, and especially in the district on the banks of the *Alto* (or Higher) *Douro*, whence the supply of the port wine so largely consumed in this country is almost entirely derived.

The wine-district of the Alto-Douro begins about 55 miles above Oporto, and thence extends for upwards of 40 miles along both banks of the river, with a breadth of from 8 to 12 miles. It is a thinly-populated and unhealthy tract. The soil about the vines is turned, and the grapes are trodden, entirely by *Gallegos* (that is, natives of the province of Galicia, in Spain), of whom about 8000 are employed at each season, but they remain in the district only during the period of their labour. The grapes are cut by women and children, from the adjacent country, great numbers of whom find employment during the vintage: the only work done by the resident farmer is the pruning of the vines.

The vintage generally begins about the end of September and concludes about the 20th of October. The new wines are brought down to Oporto (near the mouth of the Douro), chiefly during the months of March and April, at which time the river is more easily navigable than at other seasons.

(445.) The *manufactures* of Portugal are not important, but are sufficient to supply the greater part of the home consumption of ordinary articles of clothing and household necessity. The fabrics best made are cambrics, linens, and sewing threads. Glass, silk, paper, cordage, arms, earthenware, and matting, are also enumerated among the various objects of manufacturing industry, besides tanneries, distilleries, and sugar-refineries. The Portuguese display much skill in working in gold and silver, and their taste in cabinet-work is also good. Still, however, in most of the ordinary articles of household use the ingenuity of their artizans produces results very inferior to those of many other European nations.

(446.) The foreign *commerce* of Portugal (excepting the trade in wine) is not considerable, and, as in the case of Spain, its amount has been greatly reduced by the loss of her colonies in America and her Oriental possessions. The *exports* consist of wine, lemons, oranges, figs, almonds, and other fruits; salt, olive-oil, sumach, wool, and cork. The *imports* are corn, dried fish, salt meat, butter, cheese; horses, mules, and other animals; besides manufactured goods of various kinds, with iron, steel, and other metals, charcoal, tar, pitch, flax, hemp, and silk.

The wine trade is chiefly in the hands of English merchants, and is all carried on from Oporto, whence the wine — principally *port* — is shipped to London and other British markets. The quantity annually exported of late years has averaged upwards of 33,000 pipes (above 4,000,000 gallons), more than two-thirds of which is supplied to Great Britain. The average annual production of port wine during the years 1843 to 1851 was upwards of 88,000 pipes.

The internal trade of the country is inconsiderable, and labours under the disadvantages of a mountainous territory and bad roads. There are no canals, and the navigation of the rivers is liable to interruption during periods of occasional drought. Railways have attracted some notice within a recent period, and a line has been commenced between Lisbon and Santarem (on the right bank of the Tagus), a distance of fifty miles.

(447.) *National divisions.* — Portugal is divided for administrative purposes into seventeen districts. There are also six great provinces, the names of which are more generally known, and which usually appear on our maps of the country; but these only constitute geographical divisions.

Two of the provinces — *Entre Douro e Minho*, and *Tras os Montes* — are situated to the north of the Douro; — *Beira* occupies the greater part of the space between the Douro and the Tagus, and *Alemtejo* that between the latter river and the Guadiana; — *Estremadura* extends along the coast on both sides of the lower portion of the Tagus; and *Algarve* is a narrow strip along the south coast, from Cape St. Vincent to the Spanish frontier. Algarve was originally of much larger extent than at present (embracing a great portion of the Spanish province of Andalusia), and formerly constituted a separate state. The whole country is still, indeed, properly designated as the kingdom of Portugal and Algarve.

The principal towns in each province are as follow:—

Provinces.	Towns, with population.
Estremadura - -	Lisbon, 280,000 — Setubal, 15,000 — Santarem, 7800 — Pombal, 3600 — Torres Novas, 4200 — Torres Vedras, 3400 — Cintra, 2500.
Alemtejo - - - -	Evora, 9000 — Elvas, 11,000 — Castello de Vide, 6000 — Beja, 5400 — Estremoz, 6500 — Ourique.
Beira - - - - -	Coimbra, 15,000 — Viseu, 6800 — Lamego, 9000 — San Joao de Pesqueira, 3000 — Almeida.

Provinces.	Towns, with population.
Tras os Montes -	Vila Real, 5000 — Chaves, 4000 — Bragança, 3800 — Peso da Régua.
Entre Douro e Minho }	Oporto, 80,000 — Braga, 16,000 — Viana, 7000 — Guimaraens, 7000 — Caminha, 1300.
Algarve - - - -	Faro, 8000 — Tavira, 9000 — Sagres.

(448.) *Towns.* — *Lisbon*, situated on the right bank of the Tagus, near its mouth, is the capital of the kingdom, and a highly important commercial city. The newer part of the town (which occupies the site of the buildings destroyed by a great earthquake in 1755) is well built, but the greater portion consists of narrow, winding, and dirty streets, and Lisbon (like Rome) is notorious for its extreme want of cleanliness, both in the public thoroughfares and in the dwellings of the lower orders. Few of the public buildings are deserving of particular note, but the palaces and some of the residences of the nobility are splendid edifices.

The National Library of Lisbon contains 80,000 volumes, and there are several public academies and institutions for the cultivation of science and literature. The climate is regarded as remarkably salubrious, and is frequently resorted to by invalids from more northern countries for relief from pulmonary complaints. Lisbon has few manufactures, but great taste is displayed by its artizans in gold and silver works, and jewellery.

Two miles below Lisbon is the strong castle of *Belem*, which defends the approach to the city. The Tagus is here not more than a mile in breadth, and has a bar at its mouth; but above Lisbon it expands into a spacious and secure estuary, which forms a magnificent harbour. The view of the city and environs, as seen from the harbour, is particularly fine; the numerous ships which float on the smooth expanse of water, the vineyards and other plantations which clothe the sides of the hills, and the straggling city extending for two miles in length along the shore, combine to form a splendid panoramic prospect.

Cintra, a few miles to the w. by n. of Lisbon, is distinguished for the beauty of its scenery, and possesses a royal palace. *Mafra*, further to the northward, in an elevated and bleak district (690 feet above the sea), contains a vast and magnificent pile of buildings, erected as a royal residence by John V., in imitation of the Escorial. At a further distance in the same direction (25 miles n. by w. of Lisbon) is the small town of *Torres Vedras*, famous for the lines of defence constructed by Wellington in 1810. *Vimeira*, the scene of a victory gained by the same great general in 1808, over the French army, under Junot, is a few miles further to the northward.

Oporto (properly *Porto*, whence the name of the wine so extensively produced in the adjacent district), the second city in the kingdom, stands on the north bank of the Douro, about 2 miles above its mouth. It has manufactories of hats, silks, linen, and pottery, with rope-walks and ship-building yards; but its chief dependence is on the wine trade, of which it is the great seat. A fine suspension-bridge connects it with the suburb of *Villa Nova de Gaya*, on the opposite bank of the river, where are immense vaults or lodges, in which the wine is chiefly kept until it is stored. The mouth of the river forms a tolerably good harbour, but the entrance is rendered difficult by rocks and sand-banks.

All the other towns in Portugal are of small size, and few of them

deserving of particular remark. *Braga*, the capital of the province of Entre Douro e Minho, is a thriving inland town, of Carthaginian origin. *Setubal*, or *St. Ubes*, has considerable trade, exporting wine, fruits, and salt (Art. 58.). *Coimbra*, on the right bank of the Mondego, 112 miles N. N. E. of Lisbon, is the seat of a University, — the only one in the country, — and has considerable inland trade. *Almeida*, a strongly fortified town in the eastern part of Beira (near the right bank of the Coa, which joins the Douro), was alternately in the possession of the French and English during the Peninsular War. *Chaves*, near the northern frontier of the kingdom, is frequented for its mineral waters, which have enjoyed celebrity ever since the times of Roman dominion.

Evora, the principal place in the province of Alemtejo, is an ancient city, of Roman origin. *Elvas* (120 miles N. of Lisbon), in the further part of Alemtejo, is a strong fortress, the rival of Badajos, on the Spanish side of the frontier, which it nearly adjoins.

(449.) The government of Portugal is a limited monarchy, with the title of Kingdom; the legislative assembly (elected by the people at large) is called the Cortes, and possesses a large share of the executive as well as legislative power. The religion universally professed is the Roman Catholic, but the monasteries have been suppressed, and the clergy are not so numerous as formerly. The Patriarch of Lisbon is the head of the clergy, and there are two archbishoprics — those of Braga and Evora. Education is in a very backward state, and the people generally ignorant, bigoted, and superstitious.

(450.) The *Azores*, or *Western Islands*, situated in the Atlantic Ocean (between the parallels of 36° and 40° N. and the meridians of 25° and 31° W.), belong to Portugal, and have been mentioned in Art. 45. The names of these islands, taken in the order of their respective sizes, are San Miguel (or St. Michael), Terceira, Pico, San Jorge, Flores, Fayal, Santa Maria, Graciosa, and Corvo.

The climate of the Azores is mild and equable in regard to temperature, but humid, and liable to frequent variations of moisture. In St. Michael the mean quantity of rain which falls annually is 30 inches near the level of the sea, and probably not less than 50 inches in the higher grounds among the mountains. But the changes are not generally such as to affect out-door occupations, and during the whole year there is not one day of necessary total suspension of agricultural labour. The air is healthy, and among the diseases cases of consumption are peculiarly rare.

The productions of the Azores chiefly resemble those of the European mainland; the animals and birds are those of Britain, the plants and insects partly British and partly those of the Spanish peninsula, and the fishes of a mixed British and West Indian character. The only wild animals are the rabbit, ferret, weasel, rat, mouse, and bat, to which the frog has been added by recent introduction. The islands were formerly covered by forests, but these have been almost wholly destroyed, partly by intentional clearance of the land, and partly by consumption for fuel; in the higher parts of St. Michael, there is still an extensive undergrowth of heaths, cedar, laurel, laurestines, and other evergreens.

The total population of the Azores is about 214,000, of which number St. Michael contains two-fifths. The people are chiefly of Spanish or Portuguese descent, and present many local varieties and distinctions. They are generally industrious, sober, and frugal, but their standard both of moral and intellectual culture is exceedingly low. Poverty generally prevails, and great numbers of the male labourers emigrate to Brazil in the hope of bettering their condition.

Agriculture is the principal occupation, and furnishes the staple of the trade of these islands. Few articles of any kind are manufactured, and the dress of the people consists principally of British fabrics. A coarse kind of drugget employs a few domestic looms, and rough pottery is made. Good wine is also produced in some of the islands. The *exports* are oranges, chiefly to England; corn and other agricultural produce (embracing both maize and wheat of good quality) to Portugal; wine and fruits to the United States, and also to Hamburg and the various ports in the north of Europe. The *imports* are textile fabrics of various kinds, from England; hides, wood, and whale-oil, from the United States; with liquors, colonial produce, corn, soap, and various other articles, from Portugal.

The town of *Angra*, in the island of Terceira, is the seat of government, and has about 13,000 inhabitants. But *Ponte Delgada*, on the s. side of St. Michael, is the principal station of trade, and has a population of 16,000. *Horta*, in the island of Fayal, has about 10,000 inhabitants.

Besides the Azores, Portugal also possesses Madeira and the Cape Verd Islands, both situated off the west coasts of Africa; some small settlements on the coast of Senegambia, and the two islands of St. Thomas and Prince's, in the gulf of Guinea; Angola and Benguela on the western side, with Mozambique and some other territories on the eastern side, of the southern half of the African mainland; and a few small settlements in the East Indies. Her foreign possessions were formerly much more extensive, and included Brazil, in South America, and extensive territories in Hindoostan and other parts of the Asiatic continent.

Tabular View of the European States, showing the Size, Population, Revenue, and Standing Army, of each.

	Area in English sq. miles.	Population.	Inhabit- ants to sq. mile.	Revenue in pounds sterling.	Army.
Andorra - - - - -	190	18,000			
Anhalt-Bernburg - - -	340	48,000	142	94,500	300
Anhalt-Desau-Kothen -	369	115,000	191	163,700	700
Austria - - - - -	269,408	34,400,000	128	16,065,000	200,000
Baden - - - - -	8,916	1,357,000	229	2,065,000	18,000
Bavaria - - - - -	29,484	4,541,000	154	2,644,000	57,000
Belgium - - - - -	11,375	4,628,000	406	4,774,000	90,000
Bremen - - - - -	74	149,000		00	800
Brunswick - - - - -	1,427	271,000	189	00	3,000
Denmark - - - - -	21,446	2,239,000	102	00	75,000
France - - - - -	218,726	26,000,000	178	00	761,000
Frankfort - - - - -	59	75,000		00	
Great Britain and Ireland	120,723	37,452,000	227	00	229,000
Greece - - - - -	15,270	1,043,000	69	00	5,000
Hamburg - - - - -	186	240,000		00	1,800
Hanover - - - - -	14,846	1,819,000	122	00	21,000
Hessen-Cassel - - - -	3,740	755,000	210	00	11,000
Hessen-Darmstadt - -	3,245	854,000	263	00	42,500
Hessen-Homburg - - -	106	25,000	235	00	350
Holland - - - - -	12,898	2,524,800	269	00	24,000
Holstein and Lauenburg -	3,890	573,000	148		
Lichtenstein - - - - -	61	7,000	114	5,200	60
Lippe-Dernold - - - -	424	106,000	239	40,800	600
Lippe-Schaumburg - -	171	30,000	169	32,000	430
Lubeck - - - - -	127	64,000		47,000	490
Luxemburg - - - - -	990	145,000	106		
Mecklenburg-Schwerin -	5,187	841,000	104	290,000	4,700
Mecklenburg-Strelitz -	1,052	99,000	94	45,700	800
Naples and Sicily - - -	43,203	9,117,000	211	4,946,000	48,000
Nassau - - - - -	1,829	429,000	234	259,100	3,500
Oldenburg - - - - -	2,441	285,000	116	150,000	600
Portugal - - - - -	35,260	2,499,000	99	2,246,000	28,000
Prussia - - - - -	107,960	17,740,000	164	14,000,000	161,000
Russia (elder) - - - -	145	25,000	241	56,000	745
Russia (younger) - - -	448	80,000	178		
Russia - - - - -	2,000,000	64,000,000	32	14,000,000	800,000
Sachsen-Altenburg - -	613	133,000	216	81,000	1,000
Sachsen-Coburg-Gotha -	772	161,000	195	21,000	1,200
Sachsen-Meiningen - -	979	166,000	170	100,000	2,400
Sachsen-Weimar-Eisenach	1,404	264,000	187	117,000	2,000
San Marino - - - - -	24	7,000			
Sardinia - - - - -	48,511	11,250,000	231	4,900,000	124,000
Saxony - - - - -	8,776	2,099,000	245	870,000	26,000
Schwarzburg-Rudolstadt -	371	70,000	188	20,800	640
Schwarzburg-Sondershausen	394	60,000	183	27,500	450
Spain - - - - -	196,000	15,464,000	79	10,400,000	200,000
States of the Church - -	12,066	2,110,000	174	2,068,000	14,600
Sweden and Norway - -	292,700	4,644,000	16	1,745,000	57,600
Switzerland - - - - -	15,261	2,395,000	162	21,000	64,000
Turkey - - - - -	210,000	18,800,000	73	2,000,000	300,000
Waldeck - - - - -	461	64,000	125	37,500	520
Wurtemberg - - - - -	7,526	1,733,000	230	908,000	13,900

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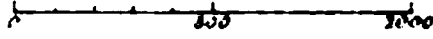
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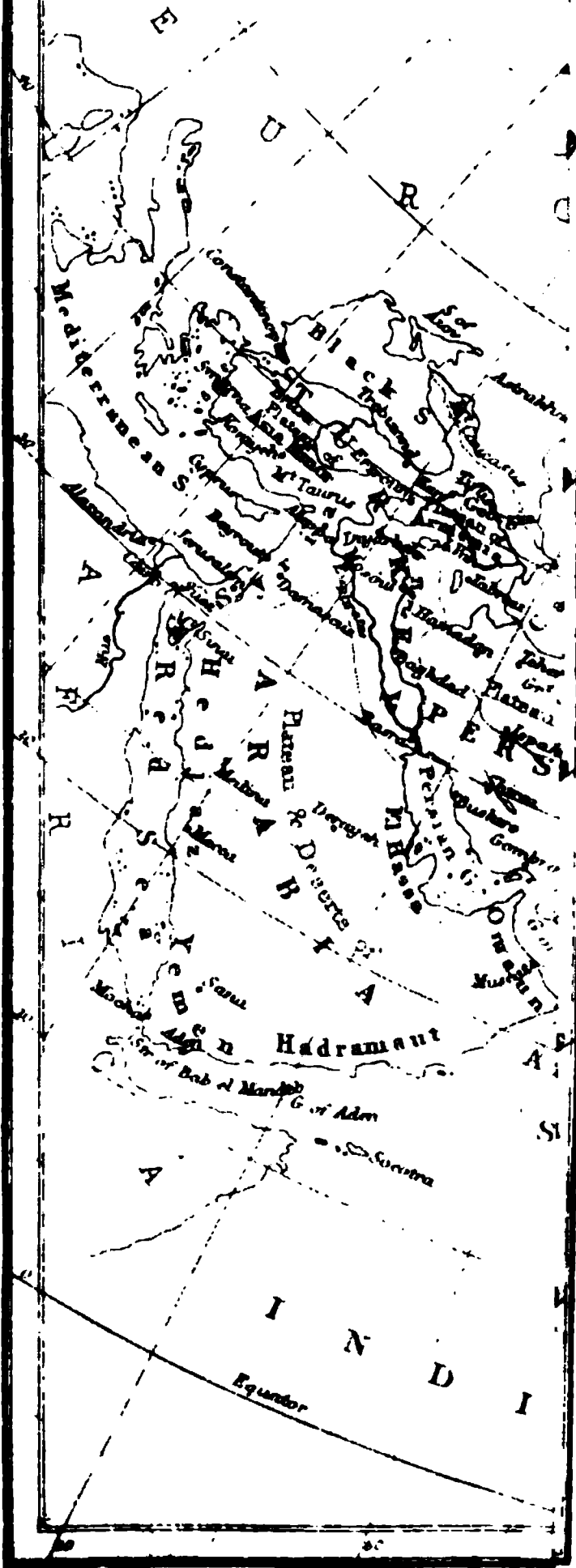
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MANUAL OF GEOGRAPHY.

CHAPTER IX.

ASIA.

PHYSICAL GEOGRAPHY OF ASIA.

(451.) *Extent and Boundaries.*—ASIA includes all the eastern portion of the Old World, and embraces considerably more than half of its entire extent. From the immediate neighbourhood of the equator it stretches to within less than twelve degrees of the North Pole, and extends from the meridian of 26° on the west to beyond that of 190° on the east. The North Cape of Asia* is in latitude $78^{\circ} 20' N.$; Point Boulus, the southernmost extremity of the Malay peninsula, is $1^{\circ} 15'$ to the north of the equator. The most western point of the continent, Cape Baba (on the coast of Asia Minor), is in longitude $26^{\circ} 5' E.$; the most eastern, called the East Cape, is $190^{\circ} 10' E.$ (or $169^{\circ} 50' W.$) of Greenwich. The East Cape of Asia is divided from the most westerly point of America by the channel of Behring Strait.

On the north, Asia is bounded by the Arctic Ocean; on the east, by the Pacific Ocean; on the south, by the Indian Ocean; and on its western side, by the Red, Mediterranean,

* That is, the *northernmost* point of the Asiatic continent, called Sievero Vostochni (or north-east cape) on the Russian maps. Another point on the Siberian coast, nearly under the meridian of 180° , bears the name of Cape North, though upon a parallel which is several degrees lower.

Black, and Caspian Seas, and the mainland of Europe. The *Isthmus of Suez*, only 73 miles in width, connects Asia with Africa. The boundary-line between Asia and Europe is formed by the ranges of Mount Caucasus and the Ural Mountains, and the course of the river Ural.

The superficial extent of Asia, without including its numerous islands, is about 17,500,000 English square miles, and the linear extent of its coast-line about 35,000 miles.

(452.) *Inland Seas, Gulfs, &c.*—On the north are the Gulfs of Kara, Obi, and Yenesei, all of them offsets of the Arctic Ocean. The Gulf of Kara lies between the coasts of Asia and the archipelago of Nova Zembla: the Gulfs of Obi and Yenesei receive the rivers of those names, and are extensions of their lower courses.

On the eastern side of Asia are a succession of broad arms or gulfs of the Pacific, which, though not inland seas in the strict sense of the term, are yet in a great degree land-locked, and are divided from the open ocean by successive chains of islands. Proceeding from north to south, these are,—the Sea of Kamschatka or Behring's Sea, the Sea of Okotsk or Kurile Sea, the Japan Sea, the Yellow Sea, the East Sea, and the China Sea; the chains of the Aleutian, Kurile, and Japan Islands, with the islands of the Eastern Archipelago, intervene between these and the open expanse of the Pacific, from which they are entered by numerous channels.

The northern part of the Japan Sea forms the *Gulf of Tartary*. The Yellow Sea stretches to the north-west into the *Gulfs of Leaotong* and *Pe-che-lee*. The *Strait of Corea* connects the Japan Sea with the Yellow and East Seas.

The China Sea is connected with the East Sea by the *Strait of Formosa* (between the coast of China and the island of Formosa), and the *Formosa Channel* (to the south of the same island) forms its principal entrance from the Pacific. The *Gulfs of Tonquin* and *Siam* both belong to its western side, and indent the south-eastern shores of the continent. The *Strait of Malacca* (between the Malay peninsula and the island of Sumatra), and the *Strait of Sunda* (between the islands of Sumatra and Java), connect the China Sea with the Indian Ocean. The China Sea is within the limits of the monsoons, or periodical winds, of the Indian Ocean; its navigation is rendered dangerous by the

typhoons, or rotary storms (resembling the hurricanes of the West Indies), to which it is subject.

The Bay of Bengal, to the south of the Asiatic continent, is a broad arm of the Indian Ocean, and divides the two great Indian peninsulas; upon its eastern side is the Gulf of Martaban. The Indian Ocean includes, upon the western coast of India proper, the Gulfs of Cutch and Cambay; further west it is connected with the *Persian Gulf* and the *Red Sea*, both of which are true inland seas.

The *Persian Gulf* has an area of 95,000 square miles; at its entrance is the *Strait of Ormuz*. Along the western shores of the gulf is an extensive bank of sand and coral, upon which a valuable pearl-fishery is carried on. The *Gulf of Omaun* extends to the eastward of the Persian Gulf, and gradually opens out into the Indian Ocean.

The *Red Sea* is a long and narrow channel, extending for upwards of 1400 miles in length between the shores of Arabia and the African continent, with a breadth which varies from about 120 to a little more than 200 miles: its area is about 180,000 square miles.

At its northern extremity, the Red Sea divides into the two small Gulfs of Suez and Akaba, which enclose between them the Sinai peninsula. This sea is throughout lined on either side with coral-reefs, which render its navigation dangerous near the shore, but between the reefs there is generally a clear and deep channel. The greatest ascertained depth does not exceed 1050 fathoms (about a mile and a quarter).*

The *Strait of Bab-el-Mandeb* (gate of tears), 16 miles in width, connects the Red Sea with the Indian Ocean. It is divided into two channels by the little island of Perim (two miles distant from the Arabian shore), which has been recently occupied by Britain. The broader channel to the eastward of the strait is called the *Gulf of Aden*.

(453.) *Capes, Peninsulas*. — The principal headlands on the *north* coast are Cape Taimur, the North Cape, and Cape Shelatskoi. On the *east* side are the East Cape, Cape Lopatka, the promontory of Shan-tung, and Cape Camboja. On the *south* are Point Romania, Cape Negrais, Cape Comorin, Ras-al-Had (the eastern point of Arabia), Cape Aden,

* The Red Sea probably derived that name from the abundance of microscopic animalculæ, of blood-red colour, found near its shores, at certain seasons of the year, in patches of considerable size. These dye the waters of a deep red, and give them a slimy appearance. It is only *within* the coral-reefs that they are found. In the more open and deeper portions of the sea, the colour of the water is an intense blue. The corals themselves are mostly white.

and Ras Mohammed, at the southern extremity of the Sinai peninsula. On the *west* side are the promontory of Carmel, and Cape Khanzir, on the coast of Syria; with Capes Anamour, Khelidonia, Krio, St. Mary, Baba, and many others, on the shores of Asia Minor.

The peninsulas of Kamschatka and Corea lie on the eastern side of Asia; those of Eastern and Western India (upon either side of the Bay of Bengal), and Arabia, on the south; and that of Asia Minor (between the Black and Mediterranean Seas) on the west. The peninsula of Eastern India (called also the *Indo-Chinese* peninsula, or India beyond the Ganges,) is prolonged towards the south into the narrow peninsula of Malaya, which is connected with the mainland by the Isthmus of Krah.

(454.) *Surface of Asia: table-lands.*—The northern and north-western parts of Asia consist of vast plains; the central, southern, and western portions of this continent rise into immense and lofty plateaus, which are crossed and supported by the most elevated mountain-chains on the surface of the globe.

The whole interior of Asia, between the 28th and 53rd parallels, and the 73rd and 120th meridians, forms a succession of vast plains, the mean elevation of which is probably nowhere less than from 2000 to 2500 feet above the sea. The *Plateau of Tibet*, which lies immediately beyond the mountain-barrier of Northern India, reaches the astonishing altitude of between 15,000 and 16,000 feet, and is the loftiest table-land on the globe. This highland region is a tract of large extent, and forms the great nucleus of central Asia, around which mountain-chains, and plateaus of inferior elevation, spread in every direction. The smaller *Plateau of Pamer*, to the west of Tibet, has a mean height of 15,000 feet. To the northward of Tibet, towards the large lake of Lop, and the course of the river Ergheu, a considerable depression occurs. Further to the eastward, the country again rises, though to a less elevation. The immense *Plateau of Mongolia*, which occupies all the northern and eastern parts of central Asia, is from 3000 to 4000 feet in average height above the sea. Between the plateaus of Tibet and Mongolia is the *Gobi*, or *Shamo**, a vast sandy desert, which has a mean height of from 2600 to 3000 feet.

The *Plateau of Afghanistan*, 6500 feet in mean height, is connected with the table-lands of Pamer and Tibet by the mountain-region of the Hindoo-Koosh: further to the west is the *Plateau of Iran* (or Persia), from 3000 to 4000 feet in height, between the Caspian Sea and the Persian Gulf, and this again is prolonged to the north-westward into the

* The word *Gobi* (Mongolian) signifies "desert," and *Shamo* (Chinese) "sea of sand."

Plateaus of Armenia and Asia Minor. The plateau of Armenia is 6000 feet in elevation, and, with the chain of Mount Caucasus, fills up the mountainous isthmus between the Black and Caspian Seas; the plateau of Asia Minor decreases in elevation from about 6000 feet in its eastern part to between 2000 and 4000 feet towards the western shores of the peninsula.

To the south of the succession of highland regions above traced, and separated from them by extensive plains, are the *Plateau of Malwa* (2000 feet), the *Plateau of the Deccan* (2000 feet), and the *Plateau of Mysore* (3000 feet), in the interior of the Indian peninsula; with the *Plateau of Arabia*, which occupies the interior of that country, and has probably a height of from 3000 to 4000 feet above the sea.

(455.) *Mountains.*—The mountain-chains of Asia extend mostly in an east and west direction: from the eastern extremity of the continent to the shores of the Mediterranean may be traced a succession of elevated ranges, all more or less connected. Among these are the Aldan or Stanovoi Mountains, the Altai, the Thian-shan, the Tsung-ling or Kuen-lun, the Himalaya, the Hindoo-Koosh, the Mountains of Armenia, and the chain of Mount Taurus. The range of Caucasus, which has the same general direction of east and west, has been described under the head of Europe (Art. 30).

The *Himalaya Mountains*, which border the plateau of Tibet on the south and divide it from the plains of Northern India, are the vastest of the mountain-systems of Asia, and contain the loftiest summits on the globe. They extend in an east and west direction for a length of about 1500 miles, with a breadth of from 200 to 250, and consist of a vast number of ranges and high detached masses, rising one above another, and divided by deep transverse valleys. The mean elevation of their higher portions is from 15,000 to 18,000 feet, but many of their loftiest summits rise to upwards of 25,000 feet, and some to even a greater height. *Mount Everest* (N. lat. $27^{\circ} 59'$, E. long. $86^{\circ} 58'$) reaches an altitude of 29,000 feet above the sea, and is perhaps the culminating point of the earth's surface. The summits of *Kunchin-jinga* and *Dhaulagiri*, formerly supposed to be the highest points of the Himalaya system, are not much inferior in elevation. All the higher parts of the mountains are covered with perpetual snow; the mean height of the snow-line is about 15,000 feet on the southern, and 18,000 feet on the northern, side of the principal ridge.* The passes over the Himalaya are at a stupen-

* The superior height of the snow-line on the northern face of the Himalaya is explained by the fact of the much greater quantity of snow which falls upon the southward side of the range. The prevalent winds, throughout the mountain-region, are from the southward, and the moisture which they bring with them is discharged chiefly upon the southern slope of the barrier. The winds that blow from the northward, passing over the plains of the interior, are comparatively dry. The radiation of heat from the elevated Tibetan plateau tends to a similar result.

dous elevation, some of them being 18,000 feet above the sea, and several exceeding 15,000 feet.

The *Altai Mountains*, which are next in importance among the mountain-systems of this continent, extend to the northward of the Mongolian plateau, and embrace several distinct and little-known ranges, spread over a vast tract of country. Their average elevation does not exceed from 5000 to 7000 feet: *Mount Bielukha*, the highest known summit, towards the western part of the system, is 11,000 feet in height, and is covered with perpetual snow.

The chains of the *Thian-shan* and the *Kuen-lun*, which extend through the most central parts of Asia, intermediate between the systems of the Altai and the Himalaya, are little known, but are probably not less than from 15,000 to 20,000 feet in their higher portions. Some of the summits in the Thian-shan chain are active volcanoes. The Kuen-lun forms the northern border of the plateau of Tibet.

The Altai and Himalaya Mountains border the high table-lands of interior Asia upon the north and south; upon the eastern side of these elevated regions are the chains of the *Khin-ghan*, *In-shan*, and *Yung-ling*, the latter of which (upon the frontier of China and Tibet) are very elevated, and rise above the snow-line. The *Pe-ling* and *Nan-ling* (or Northern and Southern Mountains)—two ranges which extend through China from west to east—are advanced spurs from the eastern borders of the table-land, and reach nearly to the shores of the Pacific.

Upon the west, the table-lands of interior Asia descend by a gradual slope towards the low plains of Turkestan,—except at the south-western extremity of the elevated region, where the chain of the *Beloor-tagh* (on the western side of the plateau of Pamir) is from 18,000 to 20,000 feet in height, and is traversed only by formidable passes, which lie between the snow-covered summits of the surrounding peaks.

The high region of the Hindoo Koosh (the summits of which are from 18,000 to 20,000 feet above the sea) forms a mountain-knot or group, in which the Himalaya, the Beloor-tagh, and other chains, unite: this tract connects the elevated plateaus of Central Asia with those in the western portion of the continent. The *Paropamisan* and *Caspian Mountains* extend hence in a westerly direction along the northern borders of the plateau of Iran; *Mount Demavend*, in the latter chain (near the southern shores of the Caspian Sea), is 14,700 feet in height. The *Mountains of Zagros*, along the western side of the same plateau, are from 6000 to 9000 feet in average elevation, and descend by successive terraces towards the plains of the Euphrates and the shores of the Persian Gulf. The *Soleimann Mountains* bound the plateau of Afghanistan on the east, and are of considerable elevation.

The highest among the mountains of Armenia is *Agri-dagh*, or *Mount Ararat*, which rises to 17,260 feet above the sea, and is covered with perpetual snow. The average height of the chain of Taurus, in Asia Minor, does not exceed from 4000 to 5000 feet; but the summit of *Mount Argæus* (or *Arjish-dagh*), which rises on the high plateau in the interior of the peninsula, is 13,100 feet above the sea.

Near its eastern extremity the chain of Taurus is connected with the *Mountains of Lebanon*, which extend in a north and south direction along the coast of Syria; Mount Hermon, their loftiest summit, is 10,000 feet above the sea, and borders on the region of perpetual snow.

The mountain-system of Lebanon stretches southward through Palestine, and is prolonged by the ranges of Mount Seir into the small peninsula of Sinai, at the head of the Red Sea. The highest peak of the Sinai mountains is 9300 feet above the sea. Mountain-ranges of moderate elevation extend around the shores of the greater part of the Arabian peninsula.

In the peninsula of Hindoostan, or Western India, are the chains of the *Aravulli*, *Vindhya*, and *Saunpoora Mountains*, and the *Eastern* and *Western Ghauts*. In most of these the average height is from 2500 to 3000 feet above the sea; the Ghauts attain a greater elevation, and along the western coast of the peninsula their higher summits are about 8000 feet.

Several ranges extend in a north and south direction through the south-eastern or Indo-Chinese peninsula, and form the *Mountains of Aracan*, the *Mountains of Siam*, the *Mountains of Camboja*, and the *Mountains of Anam*. The altitude of these is unknown, but is probably inconsiderable, excepting towards their northern extremities, where they are connected with the south-eastern portion of the Tibetan plateau and the adjacent mountains of the Chinese frontier.

Towards the north-eastern extremity of the continent, a chain of high mountains extends through the peninsula of Kamschatka; several of these are volcanoes, the highest of which exceeds 16,000 feet in altitude.

The mountains of Asia, vast as they are in extent, and stupendous as is their elevation, are yet subordinate in importance to the immense table-lands of this continent, which impart to it the distinguishing features of its formation, and around which the mountain-chains everywhere group themselves. Even the higher portions of the Himalaya are to be regarded rather as the advanced spurs or offshoots of the plateau of Tibet, than as forming parts of a true mountain-chain, in the common acceptance of the term.

(456.) *Lowland-plains*.—The *Plain of Siberia*, in the north of Asia, stretches from the foot of the Ural Mountains to the eastern extremity of the continent, and from the northern slopes of the Altai to the shores of the Arctic Ocean. Only its southern portion, between the 50th and 60th parallels, is capable of cultivation, and towards the immediate shores of the Polar Sea it forms a succession of desert tracts called *the tundra*, which in summer are covered with moss, and interspersed with innumerable lakes and marshes, and in winter are buried under a solid covering of ice. The eastern half of the Siberian plain is less uniformly level than its western portion, and is more generally covered with forests. The south-western part of Siberia contains the extensive steppes of Barabinsk and Ishim, lying on either side of the course of the river Irtysh.

The *Plain of Turkestan* extends from the south-western limits of Siberia to the mountains which form the northern

border of the plateau of Iran, and includes the basin of the Sea of Aral. Its northern part contains the extensive steppe of the Khirghiz, which extends to the shores of the Caspian, and is continuous with the steppes of the European lowland (Art. 31). Between the Caspian and Aral Seas is a tract called the Ust-Urt, a high and barren plateau, 640 feet above the level of the sea : to the south of this is the desert of Kharezsm, or Khiva (lying to the west of the river Oxus), and on the east side of the Aral are the deserts of Kizil-koum and Kara-koum, separated by the course of the ~~Sir-darya~~ ^{Sir-darya}. But the more eastern parts of Turkestan, towards the region of the central plateaus, are hilly districts, and contain numerous fertile plains and valleys.

Besides these two great lowlands there are the Plains of China, Tonquin, Siam, Pegu, Hindoostan or Northern India, Sinde, Babylonia (or Irak-Arabi), and Mesopotamia (or Al-jezireh).

The *Plain of China* embraces the north-eastern part of the country of that name, extending from the shores of the East and Yellow Seas to a distance of 500 miles inland : it is well watered, and is one of the best-cultivated and most populous tracts on the globe.

The *Plains of Tonquin* and *Siam* lie round the heads of the gulfs of those names, and the *Plain of Pegu* (or Burmah) is at the head of the Gulf of Martaban ; all of these are well-watered and highly fertile tracts.

The *Plain of Hindoostan* separates the table-lands of Southern India from the region of the Himalaya mountains, and is a fertile lowland, watered by the river Ganges and its tributaries. To the west of the plain of the Ganges is an immense sandy tract, called the Great Indian Desert, which extends nearly to the banks of the river Indus. The *Plain of Sinde* embraces the lower portion of the course of the Indus, and is only of moderate fertility.

The *Plains of Mesopotamia* and *Babylonia* embrace the greater portion of the countries watered by the rivers Euphrates and Tigris. The plain of Mesopotamia, bounded by the upper courses of these rivers, is mostly barren ; but the Babylonian plain, situated towards their mouths and extending around the head of the Persian Gulf, possesses great natural fertility, though now very thinly inhabited, and only productive to an extremely limited extent. Immediately to the west of the Euphrates begins the Syrian Desert, which extends thence to the mountain-region of the Syrian coast.

A narrow belt of lowland, called *the Tehama*, extends around three sides of the Arabian peninsula, between the mountains and the sea ; this is a hot, dry, and sterile tract.

(457.) *Deserts*.— The principal of these have been already mentioned. The *Desert of Gobi* or *Shamo*, in the central parts of the continent, is covered with a short thin grass, and contains numerous lakes and springs, the water of which, owing to the saline quality of the soil, is

so brackish as to be scarcely drinkable. Its lowest portions are covered with sand, and abound in salt, and a space of twenty miles immediately to the north of the Great Wall of China consists of loose and shifting sand, raised into waves by the action of the wind.

The *Great Indian Desert* extends eastward from the lower course of the river Indus to the foot of the Aravulli mountains, a distance of more than 300 miles, and comprises an area of 150,000 square miles. But the whole of this is not absolutely sterile. In its worst portion the desert forms a succession of sand-hills, divided by valleys in which scanty crops of grain may be raised during and immediately after the rainy season. When the intense heats of summer have burnt up the scanty vegetation of shrubs and grass with which the hillocks are covered, the fine sand is blown about by the wind, and hills and valleys alternately shift their position; the region then becomes an uninhabitable waste, which only the camel can cross with safety. The rains here are slight and irregular, but a few wells are found at wide intervals, consisting of hollows in the sandstone rock, within which the rain-water collects.

To the southward of Afghanistan are the *Deserts of Seistan* and *Mekran*; and further west, on the plateau of Iran, is the *Great Salt Desert* of Persia, the soil of which is covered with a saline efflorescence, and bears a vegetation of saliferous plants. In the more southern part of the plateau is the *Desert of Kirman*.

The *Desert of Al-jezireh* or *Mesopotamia* (between the Tigris and Euphrates) bears for the most part only coarse grass, thorny shrubs, and vast quantities of wormwood, but is interspersed with fertile tracts. The *Syrian Desert*, to the west of the Euphrates, is mostly dry and gravelly, and is covered with grass and wild flowers during the brief rains of winter and spring: to the south it extends into the deserts of the Arabian peninsula.

The greater part of the interior of Arabia consists of high desert plains, destitute of running water, and in many places forming immense tracts of loose drift-sand, which is continually changing its position, and presents an almost insurmountable barrier to the intercourse of the surrounding nations. The district of Nejd, in the northern half of the peninsula, has an undulating and rocky surface, intersected by ranges of hills, as well as varied by the occurrence of broken groups and isolated peaks.

In the north-western part of Arabia, and on the frontier of Syria, is the stony tract of Arabia Petraea, which consists of a hard gravelly and rocky plateau, intersected by dark and barren mountains of considerable height, and furrowed by the beds of winter torrents. This region wears an aspect of extreme desolation, and is very thinly inhabited.

Besides the above are the deserts and steppes of Turkestan, with the tundra of northern Siberia, already noticed (Art. 456). The whole of these regions, however, bear but a small proportion to the entire extent of this vast continent, which includes every variety of surface, and comprises many of the most fertile and populous districts on the globe.

(458.) *Rivers*.—The river-systems of Asia surpass in extent those of any other portion of the Old World. The

drainage of a large part of the Asiatic continent—probably not less than four and a half millions of square miles—is, however, unconnected with any of the surrounding oceans, but is received into inland seas or lakes, of which the Caspian and Aral possess the most extensive basins. This region of inland drainage stretches through the central portions of the continent, from the mountains which border the Mongolian plateau on the east to the frontiers of Europe on the west, where it unites with the basin of the Volga, the river which carries the largest supply of water to the Caspian. The Arabian peninsula, together with some considerable tracts in the interior of Persia, and the desert regions of the Mongolian highland and other parts of the continent, are destitute of any perennial streams.

But the greater number of the large rivers of Asia have their origin in the mountains which border its interior plateaus, and flow through the surrounding lowlands into the seas that lie around its northern, eastern, and southern coasts.

Of the rivers *flowing into the Arctic Ocean* the principal are,—the *Obi*, 2600 miles in length; its chief tributary is the *Irtish*, which collects the waters of the *Ishim*, the *Tobol*, and numerous other streams:—the *Yenesei*, 2900 miles, which is joined by the *Angara* or *Upper Tungouska* (flowing from *Lake Baikal*), the *Middle Tungouska*, and the *Lower Tungouska*:—and the *Lena*, 2500 miles, which receives the *Vitim*, *Olekma*, *Aldan*, *Viliui*, and many other tributaries. The *Obi*, *Yenesei*, and *Lena*, all rise in the mountains of the *Altai* system, and flow through the *Siberian* plain. Owing to the severity of the climate, their waters are frozen during great part of the year, and they are hence of little use for the purposes of navigation. The southern or upper portions of their streams become free from ice at an earlier period of the season than their lower courses, and the waters, thus impeded in their flow, spread out in interminable marshes and swamps. The *Obi*, which drains 1,250,000 square miles, has probably the largest basin of any river in the eastern hemisphere.

Rivers belonging to the basin of the Pacific.—The *Amour* or *Sagalien*, 2300 miles, which flows into the *Gulf of Tartary*:—the *Hwang-ho*, 2600 miles, and the *Yang-tze-kiang*, 3200 miles, both flowing into the *East Sea* (off the coast of *China*):—the *Choo-kiang* (or river of *Canton*), 1100 miles, into the *China Sea*:—the *Sang-koi*, into the *Gulf of Tonquin*:—the *May-kuang* or *Mekon*, into the *China Sea*:—and the *Meinam* (900 miles), into the *Gulf of Siam*.

The *Amour* is formed by two great arms, the *Chilka* and the *Argun*, which unite on the *Mongolian* plateau; it afterwards flows through the hilly region of *Manchooria*, receiving the *Songari* and other streams. The *Hwang-ho* and *Yang-tsze-kiang*, with their numerous tributaries, water almost the whole of *China*; in their lower courses, which approach

within less than 100 miles of one another, they flow through the fertile Chinese plain, and are the scene of an immense traffic. Near its mouth the Yang-tsze-kiang is two miles wide, and the influence of the tide extends four hundred miles up its stream.

Rivers belonging to the basin of the Indian Ocean.—The *Saluen*, and the *Irawady* (1200 miles), both flowing into the Gulf of Martaban;—the *Brahmapootra*, the *Ganges* (1500 miles), the *Mahanuddy*, the *Godavery*, the *Krishna*, and the *Cauvery*, into the Bay of Bengal;—the *Tapti* and the *Nerbudda*, into the Gulf of Cambay;—the *Indus* (1700 miles), into the Indian Ocean;—and the united *Euphrates* and *Tigris*, into the Persian Gulf.

The *Ganges* and the *Indus*, which are two of the most important rivers of Asia, both water the northern portion of the Indian peninsula. The *Ganges* rises on the southern slopes of the Himalaya Mountains, and flows in a south-easterly course through the plain of Hindoostan, collecting on its way the streams of the *Jumna*, the *Chumbul*, and the *Sone*, on its right bank, and those of the *Goomtee*, the *Gogra*, the *Gunduck*, and the *Coosy*, on the left. At its mouth it divides into numerous arms, which enclose a *delta* of immense extent: its most western arm, called the *Hooghly*, upon which *Calcutta* is built, is the only one that is usually navigated. The *Ganges* is ascended by steamers as high as *Allahabad* (at the junction of the *Jumna*, more than 800 miles above its mouth), and is navigable for boats up to its descent from the mountains.

The *Indus* rises on the plateau of Tibet, to the northward of the Himalaya Mountains, at an elevation of more than 15,000 feet, and passes round the western extremity of the chain before assuming a southerly course. About 470 miles above its mouth the *Indus* receives on its left bank the river *Chenaub*, which collects the waters of the five streams of the *Jeloum*, the *Chenaub*, the *Ravee*, the *Beyas*, and the *Sutlej*. The last-mentioned of these rises on the north side of the Himalaya Mountains, and flows through a ravine 3000 feet in depth. The *Jeloum* flows in its upper course through the beautiful valley of *Cashmere*, bordered on either side by stupendous mountains, and watered by several small lakes. The district watered by the five rivers above mentioned is called the *Punjaub*.* The only considerable tributary of the *Indus* on its right bank is the *Caulul* river. At its mouth the *Indus* forms a *delta*, of smaller extent than that of the *Ganges*. All the chief tributaries of the river, as well as its main stream, are navigable through nearly their entire length; steam-boats of considerable size can ascend to more than 500 miles distance from the sea, and smaller vessels to 500 miles higher.

The *Tigris*, 1100 miles, and the *Euphrates*, 1700 miles, unite in the single stream of the *Shat-el-Arab*, which has a course of about 100 miles to the head of the Persian Gulf. Both rivers are navigable, and can be ascended by steamers to a considerable distance inland.

* Properly, *Penj-ab*, or five rivers: similarly, the tract between two contiguous streams is distinguished in India as the *Do-ab*, or two rivers.

The longest river upon the *western* coasts of Asia is the *Kizil-Irmak*, about 500 miles, which flows through Asia Minor into the Black Sea.

Inland rivers.—The Caspian Sea receives the waters of the river *Kour*, 550 miles, with its tributary, the *Aras*.—The *Amoo* or *Jihoon* (ancient *Oxus*), 1300 miles, and the *Sir* or *Sihoon* (ancient *Jaxartes*), 1150 miles, both flow into the sea of Aral.—The *Tarim* or *Ergheh*, 900 miles, flows into the Lake of Lop, in the centre of the continent.—The *Yarrow*, or *Sanpoo*, a large river which crosses the plateau of Tibet from west to east, is believed to join the upper course of the *Brahmapootra*.—The *Helmund*, 600 miles, which rises on the plateau of Afghanistan, falls into Lake Zurrah; the *Jordan*, in Palestine, into the Dead Sea.

(459.) *Lakes.*—These are most numerous on the high plateaus in the interior of the continent, or among the mountainous tracts which lie around their borders. The Caspian Sea, however, lies in a depressed region (Art. 15), and the Sea of Aral is only at a trifling elevation.

The *Sea of Aral*, about 26,000 square miles in area, is shallow, and its water slightly salt; it is, next to the Caspian, the largest salt-water lake on the globe.—*Lake Baikal*, situated among the northern offsets of the Altai mountain-system, has an area of about 15,000 square miles, and lies at an elevation of 1420 feet above the sea: its water is fresh, and abounds in fish, which include sturgeons, seals, and a species of herring. It is annually frozen over for a period of five or six months, and may be traversed on sledges.

The other principal lakes of Asia are Zaisang, Oubsa, Balkashi or Tengiz, Issyk, Bosteng, Lop, Koko-nor, Bouka-nor, and Tengri-nor—all on or adjacent to the high plateaus in the interior of the continent;—Tong-ting and Poyang, in China;—Zurrah and Bakhtegan (both salt), on the plateaus of Afghanistan and Persia;—Urumiyah, Van, and Gonkcha (the two former of which are salt), on the Armenian table-land;—the salt-lake of Koch-hissar, in Asia Minor;—with Lake Tiberias and the Dead Sea, in Palestine. Lake Tiberias, or the Sea of Galilee, is fresh, and abounds in fish; the waters of the Dead Sea are so intensely salt as to be wholly devoid of animal life, and are only exceeded in saltiness by those of Lake Urumiyah. Salt lakes are also numerous in the steppes of the Siberian plain.

(460.) *Islands.*—Cyprus, in the Mediterranean Sea, about 3000 square miles in area, is mountainous and fertile.—Rhodes, Scarpanto, Kos, Samo, Khio, Mitylene, and numerous others situated off the western coasts of Asia Minor, are all hilly and fertile.

The Liakhov Islands, lying in the Arctic Ocean, off the north coasts of Asia, embrace Kotelnai, Fadievsk, New Si-

beria, Liakhov, and others: fossil ivory, consisting of huge mammoth bones and tusks, is found in immense quantities on these islands and the adjacent shores of the continent. The Bear Islands are a small group further to the eastward. On the east side of Asia are the Aleutian Islands, the Kurile Islands, Tarakai or Sagalien Island, Jesso, the Japan Islands, the Loo-choo Islands, Formosa, Hainan, and the numerous groups of the East Indian Archipelago.

The *Aleutian* and *Kurile Islands* are high, rocky, and volcanic; several active volcanoes occur in either group.—*Tarakai* or *Sagalien*, a long and narrow island to the eastward of the Gulf of Tartary, and near the mouth of the river Amour, is high in the interior.—*Jesso*, a mountainous island further to the south, is divided from Tarakai by the Strait of La Perouse, and from Japan by the Strait of Sangar.

The *Japan Islands* embrace Nippon, Sikokf, Kiusiu, and many of smaller size—all hilly, fertile, and watered by numerous streams. Nippon, the largest, is more than 850 miles in length, and upwards of 90,000 square miles in area: it contains chains of lofty mountains, among which are several active volcanoes.—The *Loo-choo Islands* are a small and fertile archipelago, midway between Japan and Formosa; to the northward of the group is Sulphur Island, an insular volcano, from which sulphureous smoke is constantly emitted.—*Formosa*, or *Taewan*, off the east coast of China, 250 miles in length, has a range of lofty mountains running through its centre. To the eastward of Formosa is the group of the Madjicosimah Islands. *Hainan*, a large island, is to the southward of China.

The *East Indian Archipelago* embraces an immense number of islands lying to the south-eastward of the Asiatic continent, and intervening between the Pacific and Indian Oceans, which communicate by numberless straits and channels between the different groups. The principal among them are the Philippine Islands, the Molucca Islands, Celebes, Borneo, Sumatra, Java, and a long chain of smaller islands stretching to the eastward of the latter, and embraced (with Sumatra and Java) under the general name of the Sunda Islands. Sumatra and Java are distinguished as the Greater—and the chain to the eastward of the latter as the Lesser—Sunda Islands.

The greater number of these islands are mountainous, well-watered, and fertile. Sumatra has a high chain of moun-

tains extending along its west coast, the principal summits of which exceed 12,000 feet in altitude : high mountains also stretch through the entire length of Java. The whole of the Sunda Islands, and likewise the groups of the Philippines and Molucca Islands, contain numerous active volcanoes, of which Java alone has thirty-eight. In fact, a great line of volcanic agency stretches along the whole eastern side of the Asiatic continent, from the Aleutian Islands and the peninsula of Kamschatka on the north to the islands of the East Indian Archipelago on the south.

On the south of Asia are the Andaman and Nicobar Islands, in the Bay of Bengal,—Ceylon, to the southward of the Indian peninsula,—and the archipelagoes of the Laccadive and Maldivé Islands, further to the west. Ceylon, which has an area of 24,500 square miles, is mountainous in the interior, with a belt of lowland round the coasts : its highest point is upwards of 8000 feet above the sea. The Maldivé and Laccadive Islands are low coral reefs.

(461.) *Climate.*—Asia exhibits every variety of climate, from the intense heats of the torrid zone to the extreme and long-continued cold of the arctic regions. In a general sense, we may regard it as forming in this respect three great belts, lying in the direction of east and west. The most *northern* of these (which includes the Siberian plain and the steppes to the north and north-eastward of the Sea of Aral) is characterised by extreme cold, which endures for nine months of the year, and alternates with a brief period of excessive heat : the *middle* zone (embracing the high plateaus in the interior of the continent) is distinguished by a cold and dry climate : and the *southern* (which includes the countries to the south of the great mountain-chains, and sloping towards the shores of the Indian Ocean, together with the islands of the East Indian Archipelago), by the combined prevalence of heat and moisture. Or, in other words, *northern* Asia is intensely cold ; *middle* Asia is cold and dry, and (owing to its elevation) subject to the influence of piercing winds ; and *southern* Asia hot and moist. The western shores of the continent, bordering on the Mediterranean Sea, have a warm temperature, and a climate resembling that of southern Europe ; the eastern coasts, with the countries sloping towards the Pacific, are distinguished by the great extremes of heat and cold which they experience at the opposite seasons of the year.

The coldest portion of Asia (and, indeed, of the whole globe) is the district which extends on either side of the middle and lower course of the river Lena, in the eastern part of the Siberian plain. At Yakutsk (lat. 62°) within this tract, the mean temperature of the year is 13.4 , of summer 61.7 , and of winter -36.3 (a difference of 98° between the opposite seasons). Here, and in the adjacent regions of northern and eastern Siberia, the rivers begin to freeze early in September, and are not free from ice before the beginning of the following June. During the short but warm summer the air is, in general, remarkably calm and free from wind, but its stillness is occasionally interrupted by violent thunderstorms.

The hottest parts of Asia are found in a zone which stretches across the southern portion of the continent (including the greater part of the Arabian peninsula, the southern shores of Persia, the two Indian peninsulas, and the south-western part of China), with the northern coasts of Sumatra, Borneo, and Celebes, and the entire group of the Philippine Islands. Within these limits the mean temperature of July is about $81\frac{1}{2}^{\circ}$, and that of January not less than from 59° to 77° . The mean annual temperature of Calcutta is 82.4 , the mean of summer 86.7 , and that of winter 72.2 (a range of only $14\frac{1}{2}^{\circ}$ between the opposite periods of the year).

In Asia, as in Europe, in advancing from west to east, along any given parallel, the average amount of annual heat becomes gradually less, while the extremes of summer and winter temperature increase. The eastern and southern coasts of China exhibit this extreme climate in a striking manner: the mean annual temperature of Canton (in lat. $23^{\circ} 8'$) is 69.8 , which is scarcely more than two degrees higher than that of Gibraltar (67.4), though the latter place is situated under the parallel of $36^{\circ} 7'$, or thirteen degrees further to the northward. And while at Gibraltar the difference between the mean temperatures of summer and winter is only 19.8 , at Canton it amounts to 27.1 . Indeed, the summers of Canton are hotter than those of Singapore (within little more than one degree of the equator), and the winter temperature the same as that of Algiers, which is more than thirteen degrees further to the northward.

Throughout all southern and south-western Asia, the rains fall with extreme violence at particular seasons of the year, and within the lapse of a few days (often, indeed, within a few hours), a quantity of moisture is precipitated which greatly exceeds the whole annual amount that falls in higher latitudes. At Calcutta the mean annual quantity of rain amounts to 81 inches, and at Bombay as much as 16 inches of rain is said to have been collected within 24 hours. During the rains the rivers become swelled with inconceivable rapidity, and channels which during several months of the year present to view only dry water-courses become converted into rapid torrents: these frequently overflow their banks, and the waters sweep before them everything which impedes their course. In India, the rainy season extends from the beginning of June to the beginning or end of September, and heavy rains again occur about Christmas; the setting-in of the wet season is accompanied by sudden changes in the condition of the atmosphere, and violent thunder-storms prevail.

In the tropical parts of Asia in general, and especially in the south-

eastern peninsula and the islands of the East Indian Archipelago, the low grounds near the coast are frequently rendered unhealthy from the excess of moisture and the dense luxuriance of vegetation, which occasion malaria. But this ceases at elevations of 1000 feet and upwards above the level of the sea, and the climates of the temperate zone are reached upon ascending to greater heights. Thus the Neilgherry Hills, in Southern India, the elevated regions of the Ghauts on the western side of the peninsula, and the high plain of Newera Ellia, in the interior of Ceylon, serve as sanitary stations for recruiting the health of Europeans whose constitutions have been impaired by prolonged residence upon the plains of the coast.

NATURAL PRODUCTIONS.

(462.) *Mineralogy*.—Nearly every product of the mineral kingdom is found in the wide-spread continent of Asia, or within the adjacent islands. The chains of the Ural and Altai mountains in the north, the two Indian peninsulas in the south and south-east, with the adjacent islands of the East Indian Archipelago and the Japanese group, are the regions in which both the precious and the more useful metals are found most abundantly. Gold forms the characteristic produce of the Ural Mountains (Art. 60); gold, silver, and lead, that of the Altai system and the adjacent tracts of southern Siberia. In India and the neighbouring countries of south-eastern Asia, the diamond and other precious stones, together with gold, quicksilver, and tin, are abundantly found; silver, in China; gold and precious stones, in Borneo, Sumatra, and other islands of the Eastern Archipelago; copper and gold, in Japan. Iron, copper, and lead, are found in many parts of Western Asia. Coal is abundant in many parts of Northern India, and is also found in China, on the coast of Syria, and in some of the islands of the East Indies. Among mineral products of less importance are talc (or properly *mica*), found abundantly in Eastern Siberia, and also on the borders of the Caspian Sea and in Hindoostan,—tincal, or borax, in Tibet,—nitre, in Hindoostan,—asphalt, or bitumen, in the neighbourhood of the Dead Sea and the banks of the Tigris,—petroleum, or naphtha, near the shores of the Caspian and in other parts of Western Asia, and likewise in Burmah,—and amber in the last-mentioned country.

The countries in which the principal mineral productions of this continent occur are enumerated in the following Table:—

<i>Diamond</i>	Borneo, Celebes, Hindoostan, Siberia (Ural Mountains).
<i>Other precious stones</i> *	Hindoostan, Turkestan, Siberia, China, and Ceylon.

* The ruby is confined to Burmah, Ceylon, China, and the mountainous districts of Turkestan; the amethyst and topaz occur both in Ceylon and China; the beryl and tourmaline in Siberia; the turquoise, amethyst, jasper, topaz, cornelian, agate, and many others, are found in India, Turkestan, and among the mountains of the Altai and Himalaya systems.

<i>Gold</i>	Siberia, Borneo, Tibet, Yunnan (in the s.w. of China), Burmah, Siam, Malacca, Cochin-China, Tonquin, and Japan.
<i>Silver</i>	Siberia, China, Armenia, Asia Minor, Persia.
<i>Quicksilver</i>	Tibet, Yunnan, and Japan.
<i>Iron</i>	Asia Minor, Georgia, Armenia, Persia, Hindoostan, Siberia, and the East Indies (chiefly in the small island of Billiton, between Sumatra and Borneo).
<i>Copper</i>	Asia Minor, Armenia, Siberia, Hindoostan, China, Japan, Persia, and the East Indies.
<i>Lead</i>	Siberia, Armenia, Hindoostan, China, Siam, and Japan.
<i>Tin</i>	Burmah, Anam, Malacca, the small island of Banca (to the east of Sumatra), and the island of Celebes.
<i>Coal</i>	Hindoostan, China, Japan, Persia, Syria, Asia Minor, East Indian Archipelago, and Burmah.
<i>Salt</i>	Asia Minor, Arabia, Hindoostan, Central Asia, China, Siberia, and East Indian Archipelago.

(463.) *Vegetation.*—The vegetable productions of Asia are equally varied as its surface and climate. Three great botanical regions may be distinguished, coinciding with the three zones of climate above noticed :—*first*, the northern plains, in which the vegetation is scanty, and beyond the 60th parallel is confined chiefly to mosses and lichens ; —*secondly*, the table-lands of the interior, in which the larger kinds of timber are scarce, but which abound in grasses ; — and *thirdly*, the southern and the south-eastern parts of the continent, with the adjacent islands, which abound in all the richest and most varied productions of the vegetable world.

In the southern parts of Siberia are extensive forests of pine, birch, and other hardy trees, but these gradually become stunted in advancing to the northward, and beyond the parallel of 60° the ground is perpetually frozen at a few feet below the surface. Vast forests of larch clothe the sides of the Aldan Mountains, and reach in the parallel of 61° to a height of 2200 feet above the sea. In a few places, trees grow and corn ripens even at 70° N. latitude; but the ground is there buried under snow for nine or ten months of the year, and in the extreme north are the boundless swamps and marshes of the *tundra*, in which lakes both of salt and fresh water abound. As soon as the snow is melted by the sun, these extensive morasses are covered with coarse grass and rushes, while mosses and lichens, mixed with dwarf willows, and numerous saline plants, clothe the plains.

In the countries of southern Asia is to be found the most profuse luxuriance of vegetation. The sides of the hills are clothed with forests of oak, birch, chestnut, cypress, and the varieties of the pine tribe : lower down are found the poplar, the teak-wood, ebony, iron-wood, sandal-wood, rosewood, the different species of palms, the almond, apple, apricot, banana, bread-fruit, citron, orange, and Indian fig (or banyan-tree) ; together with the cotton-plant, the coffee-tree, the tea-plant, the lime, mulberry, olive, plum, pear, pomegranate ; the sugar-cane, tama-

rind, vine, walnut; and an immense variety of others, including numerous kinds of grain and leguminous plants, and numberless fruits and flowers of the most diversified description.

Rice flourishes in the plains all over the southern portion of the continent (to the south of the 40th parallel), and grows even on the high plateau of Tibet: in the two Indian peninsulas, and also in China and the islands of the Eastern Archipelago, it forms the most ordinary article of food, and supports the great majority of the population. In south-western Asia (including Arabia, Syria, and the western districts of Persia) the date-palm has its principal seat. The vine grows all over the southern half of the continent: the tea-plant is limited to its south-eastern shores and the islands of the Japan group.

The elevated mountain-chains of Asia exhibit in succession the vegetation of different zones of climate. Upon the southern slopes of the Himalaya, the character of the vegetation is tropical up to about 4000 feet above the sea, though at the height of 3000 feet a few of the forms of temperate climates begin to appear. With the successive ascent to higher regions, trees of the deciduous kind become common; and the middle region, between 5000 and 9000 feet, produces oaks, sycamores, elms, and pines, together with roses, honeysuckles, and many other plants of European forms, though of distinct species, besides the scarlet rhododendron, which is most abundant at these altitudes. Many of the above, with various pines, prevail in the upper parts of the forest at between 8000 and 11,500 feet above the sea, at which elevation trees cease. Above this height the vegetation becomes chiefly herbaceous, few shrubs ascending to 14,000 feet, and between 17,000 and 18,000 feet vegetable life altogether ceases.

In no part of the world is vegetation more luxuriantly developed, or more rich in its varieties, than in the vast archipelago which lies to the south-eastward of the Asiatic continent. This is especially the region of the spices,—the cinnamon, nutmeg, pepper, and clove; with numerous gums, dye-woods, aromatic plants, and medicinal herbs. Here, too, the cocoa-nut palm, the bread-fruit tree, sago-tree, yam, papaw, and banana, all flourish, and among the flowers is the gigantic *Rafflesia*, with a corolla of three feet and a half in diameter, the largest in the world.

(464.) *Zoology*.—Asia is richer in mammalia than any other division of the globe: nearly all the larger quadrupeds, and the higher forms of animal life in general, are found in this continent, and a large proportion of them are peculiar to it.

Among domesticated quadrupeds, the ox, horse, camel, goat, and ass, are all natives of Asia; sheep are numerous, and are probably indigenous. The camel extends nearly as far north as Lake Baikal; the rein-deer and elk frequent the northern plains; numerous varieties of the ox (including the common ox, the aurochs, buffalo, and yak) are reared in immense numbers by the Tartar nations who inhabit the upland plains of the interior; and the different species of deer and antelopes abound in the western and south-western regions. The horse and the ass are found all over the middle and southern parts of the continent, and the wild ass, which in summer feeds in the plains to the north and east of Lake Aral, in autumn migrates in vast herds to the north of India, and even to Persia.

The elephant, which dwells in the south-east of Asia and in some of the smaller islands of the Eastern Archipelago, is not found to the west of India, nor to the north of the Himalaya mountains : the rhinoceros occurs within the same limits as the elephant. Among carnivorous quadrupeds are the lion, the tiger, leopard, panther, and ounce, of the cat genus,—and the wolf, hyena, and jackal, of the dog tribe. The lion is now restricted to the region which extends from the banks of the Euphrates and Tigris to the western coasts of the Indian peninsula, including the deserts of Mesopotamia, Persia, and Hindoostan. The tiger has a more extensive range, and inhabits all the middle and south-eastern divisions of the continent. The hyena, and also the jackal, belong to the western half of southern Asia ; the wolf frequents the northern and western plains, and is found in a range of country extending from Siberia, through Turkestan, to the shores of the Mediterranean. The dog and the fox are common all over the continent, and present numerous varieties ; in Kamschatka and some parts of Siberia the former animal is used as a beast of burden, and is trained to draw the sledges over the vast plains of ice and frozen snow.

Numerous fur-bearing animals occur in Siberia, including the bear, glutton, badger, wolf, fox, lynx, pole-cat, weasel, ermine, marten, otter, sable, squirrel, beaver, hare, and the rein-deer : many of these belong also to the northern regions of Europe (Art. 70). The quadrumanous animals are found in the south and south-east of the continent, and the islands of the East Indian Archipelago ; the largest and most remarkable amongst them—the ourang-outang—is restricted to the Malayan peninsula and the islands of Borneo and Sumatra. The gibbons (or long-armed apes) belong exclusively to Asia, and abound in its south-eastern parts. Bats are more numerous in the islands of the Asiatic Archipelago than on the continent.

Asia is less rich in variety of birds than in quadrupeds, but (with the exception of the turkey, which is a native of the New World,) all the different kinds of domestic poultry came originally from this division of the globe. Among its birds of prey are eagles, vultures, falcons, owls, and hawks ; but although individually abundant, the species of these are not numerous. Song-birds are numerous in Western Asia, but are comparatively scarce in the eastern division of the continent, where, however (especially among the islands of the Eastern Archipelago and in China), birds of beautiful plumage abound. The peacock is a native of India, the golden pheasants belong to China, and the birds of paradise to New Guinea and the adjacent islands.

Reptiles are less numerous in Asia than in some other parts of the globe, but are sufficiently common in the south-eastern parts of the continent and the adjacent islands. The python (analogous to the boa-constrictor of the New World) lurks in the morasses and swamps of the East Indian islands ; the cobras, with several other kinds of venomous serpents, are found in the peninsulas of Eastern and Western India. Both sea and fresh-water snakes are likewise numerous. Among insects, the locust is abundant in Western Asia, and commits the most frightful and dreaded ravages among the crops in Syria, Persia, and Arabia.

(465.) *People of Asia.*—Asia is supposed to contain not

fewer than 500 millions of inhabitants, or more than half the population of the globe. Among these are found members of four out of the five great divisions of the human family.

The *Caucasian* group of nations occupy the whole of western and south-western Asia, from the shores of the Black and Mediterranean Seas to the southern extremity of India, and are limited on the north and east by the Himalaya mountains and the valley of the Brahmapootra. These include the Caucasians proper (or inhabitants of Georgia, Armenia, and the adjacent tracts), the Arabian or Semitic stock, the Persians, the Afghans, and the Hindoos.

The *Mongolian* variety occupy all the northern and eastern parts of the continent, and embrace the various Mongol and Tartar tribes, the Turkish or Turcoman family, the Chinese, the Indo-Chinese nations, the Tibetans, the Koreans, and the Japanese.

The *Malay* family of nations constitute the ruling population in the islands of the East Indian Archipelago; and mixed with them, in smaller numbers, and in an inferior condition of social life, are various tribes belonging to the *Ethiopic* or Negro race, who are found most numerous in the interior of Borneo, and in some of the lesser Sunda islands.

Of all the Asiatic nations, the Chinese, the Hindoos, the Mongols, and the Turks, are the most numerous. Besides those above mentioned, there are a vast number of other and less important families, some of them consisting only of a few thousands, and confined to particular localities which they seem to have occupied from the earliest ages.

The distinguishing features of the Mongolian variety of mankind are the squareness of the head,—the forehead low and slanting—the face and nose broad and flat, with the cheek-bones projecting—the eyes deeply sunk, and the inner corner slanting towards the nose—the complexion of an olive, or yellowish-brown, colour—the hair lank and black—the beard scanty—the stature shorter than that of Europeans, and the frame generally broad, square, and robust, with high shoulders, and the neck thick and strong. The Malayan nations are dark brown in complexion, with lank, coarse, black hair, flat faces, and obliquely-set eyes: they are generally robust and squat in figure, and below the average height of the European races.

The nations of the greater part of this vast continent have in all ages been distinguished by their migratory tendencies, and its central regions are the fertile source whence countless hordes have successively proceeded to people other lands. Indeed the number of native tribes who have at various periods migrated from the high tracts of central and western Asia to settle in other countries is immense, and traces of Asiatic languages, manners, traditions, and institutions, are found not only in almost every part of the eastern continent, but in many portions of the New World.

TABLE OF ASIATIC MOUNTAINS, WITH THEIR ELEVATIONS.

	Height of sum- mits, in feet.
Aldan or Stanovoi Mountains (Siberia) :	
Mount Kapitan - - - - -	4,263
Mountains of Kamschatka :	
Shlevelutch (volc.) - - - - -	10,591
Kliuchevsk (volc.) - - - - -	16,512
Awatshka, peak of (volc.) - - - - -	8,760
Altai Mountains (Siberia and Mongolia), average height from 5000 to 7000 feet :	
Mount Bielukha (lat. 50°, long. 86° 30') - - - - -	11,000
Thian-shan (Mongolia), from 6000 to 8000 feet :	
Peak of Pe-shan (83° 30' E. long.) about - - - - -	10,000
Tsung-ling, or Kuen-lun (Tibet and Mongolia), from 16,000 to 18,000 feet :	
In-shan (Mongolia and Manchooria) :	
Peak of Pet-sha, above - - - - -	10,000
Yung-ling (China and Tibet) :	
Several snowy peaks, probably above - - - - -	12,000
Nan-ling (China) :	
Pass of Mellan, or Mei-ling - - - - -	8,000
Himalaya Mountains (Hindoostan and Tibet), average height from 15,000 to 18,000 feet :	
Chumulari (89° 18' E. long.) - - - - -	23,946
Donkiah-lah - - - - -	23,175
Lachoon Pass (long. 88° 47') - - - - -	18,000
Kunchin-jinga (long. 88° 11') - - - - -	28,156
Wallanchoong Pass (long. 87° 34') - - - - -	16,700
Mount Everest (long. 86° 56') - - - - -	29,002
Dhawalagiri (long. 82° 51') - - - - -	26,862
Jawahir (long. 80°) - - - - -	25,670
Noetee Pass (long. 79° 50') - - - - -	16,814
Peak of Kailas - - - - -	21,000
Gangoutri Pyramid - - - - -	21,219
Karukorum Pass - - - - -	18,600

Height of sum-
mits, in feet.**Hindoo-Koosh (Afghanistan):**

Koh-i-Baba - - - - - 18,000
 Beloor-tagh (Turkestan and Bukharia), highest peaks from
 15,000 to 20,000 feet:

Soleimaun Mountains (Afghanistan):

Takht-i-Soleimaun - - - - - 12,000
 Caspian Mountains, or Chain of El-burz (Persia):
 Demavend, (about) - - - - - 20,000

Mountains of Zagros (Persia and Koordistan), from 6000 to 9000 feet:

Peak of Rowandiz (lat. $36^{\circ} 52'$, long. 45°) - - - - - 10,568
 Pass of Kell-shin (lat. $36^{\circ} 59'$, long. $44^{\circ} 56'$) about - - - - - 9,600
 Jawur-tagh, highest summits of, about - - - - - 13,000

Mountains of Armenia:

Agri-dagh, or Mount Ararat - - - - - 17,260
 Mount Sevilian (lat. $38^{\circ} 30'$, long. $47^{\circ} 48'$) about - - - - - 13,000
 Sapan-tagh (N. side of Lake Van) about - - - - - 10,000

Mountains of Asia Minor:

Chain of Taurus, from 4000 to 5000 feet.
 Pass of Golek Boghaz, *ancient Cilician Gates* (lat. $37^{\circ} 13'$, long. $34^{\circ} 50'$) 3,812
 Bulghar-dagh (western part of Taurus) about - - - - - 10,000
 Arjish-dagh, *ancient Argæus* (lat. $38^{\circ} 31'$, long. $35^{\circ} 15'$) - - - - - 13,100
 Hassan-dagh (lat. $38^{\circ} 4'$, long. $34^{\circ} 18'$) about - - - - - 9,000
 Kara-dagh (lat. $37^{\circ} 23'$, long. $33^{\circ} 20'$) about - - - - - 8,000
 Kheishish-dagh, *ancient Olympus* (lat. 40° , long. $29^{\circ} 20'$), about - - - - - 9,000
 Kaz-dagh, *ancient Ida* - - - - - 4,930

Mountains of Syria:

Chain of Akma-dagh, *ancient Amanus*, about - - - - - 6,000
 Pass of Beilan, *ancient Syrian Gates* - - - - - 1,300
 Jebel Kheserik, *ancient Rhosus*, (lat. $36^{\circ} 19'$) - - - - - 5,400
 Jebel Okrah, *ancient Castus* ((lat. $35^{\circ} 56'$, long. 36°) - - - - - 5,318
 Chain of Mount Lebanon, from 6000 to 7000 feet
 Jebel Libnan (highest part of Libanus), about - - - - - 9,500
 Jebel esh-Sheikh, *ancient Hermon*, about - - - - - 10,000

Mountains of Sinai (Arabia):

Highest peak - - - - - 9,200
 Jebel Katerin (Mount St. Catharine) - - - - - 8,593
 Jebel Mousa (Mount Moses) - - - - - 7,498
 Mount Serbal - - - - - 6,760

Aravulli Mountains (Hindoostan), about 3600 feet.**Vindhya Mountains (ditto), from 2500 to 3000 feet.****Ghauts (West Coast of ditto), from 3000 to 4500 feet.**

The highest summits, about - - - - - 8,000
 Nellgherry Hills, or Blue Mountains - - - - - 8,960

Islands of Asia.

Japan:—Mount Fusi (Island of Nippon), above - - - - - 12,000
 Formosa, about - - - - - 12,000
 Borneo:—Mount Kina-balow - - - - - 13,580
 Sumatra:—Indrapura - - - - - 12,300
 Pasaman, *ancient Ophir* - - - - - 9,600
 Java, from 5000 to about - - - - - 12,000
 Ceylon:—Pedrotallagalla - - - - - 8,280
 Adam's Peak - - - - - 6,152
 Cyprus:—Oros Troados, *ancient Olympus* - - - - - 6,490

CHAPTER X.

NATIONAL DIVISIONS OF ASIA.

SECTION I. — TURKEY.

(466.) *Boundaries and Extent.* — Turkey in Asia embraces the most western portion of the Asiatic continent. It includes the peninsula of ASIA MINOR (lying between the Black and Mediterranean Seas); SYRIA, on the eastern borders of the Mediterranean; and the countries watered by the Euphrates and Tigris, or IRAK-ARABI, AL-JEZIREH, and part of ARMENIA; besides the large island of Cyprus, and many smaller islands situated in the eastern portion of the Archipelago. On the north, Asiatic Turkey is bounded by the Black Sea, on the west and south-west by the Mediterranean, on the south by the deserts of Arabia, and on the east by Persia, Georgia, and the adjacent provinces of Asiatic Russia.

(467.) *The Natural Features, Climate, and Productions,* of these extensive countries are very various.

1. The interior of ASIA MINOR forms a high plateau, bounded on the south by the chain of Mount Taurus, and on the north by ranges of hills which extend along the southern shores of the Euxine Sea. On its western side the plateau descends gradually to the shores of the Archipelago, forming several long and narrow valleys, which open out in the direction of east and west. These valleys are watered by the rivers best known by their ancient names of Mæander, Cayster, Hermus, Caicus, and others, and are among the most fertile and beautiful portions of the peninsula. Many of the plains and valleys towards the southern coast, as well as those which border on the Black Sea, are also fertile; but great part of the interior of Asia Minor is dry and sterile. The longest river of the peninsula is the Kizil-Irmak (ancient Halys), and next to this the Sakaria (ancient Sangarius), both of which flow into the Black

Sea. In the interior is the great salt lake of Koj-hissar, and there are many smaller lakes, both of salt and fresh water: some of the latter class, situated among the mountains, exhibit great beauty of scenery.

2. SYRIA extends from the shores of the Mediterranean to the banks of the Euphrates: its western portion is a mountain region, its eastern half an open and gravelly desert. Palestine, or the Holy Land, is the south-western portion of Syria.

In northern Syria, the mountains border closely upon the coast of the Mediterranean. They form two long chains, which run in the direction of the coast (that is, north and south), and parallel to one another. The higher portions of the mountain-region (between the parallels of 33° and 35°) correspond to the Libanus and Anti-Libanus of ancient geography—the *Mount Lebanon* of the Bible. The sea-ward range, or Libanus, still bears in one part the name of *Jebel Libnan*. Its loftiest peaks, which are only free from snow during the hottest period of the summer, rise to 9000 feet above the sea. The more inland range, or Anti-Libanus, is of inferior average height, but it rises to the southward into the huge mountain-mass known as *Jebel esh-Sheikh**,—the Mount Hermon of the sacred volume—which is covered with snow nearly throughout the year, and is probably not less than 10,000 feet above the sea.

The parallel chains of Libanus and Anti-Libanus are divided by a broad valley, the *Coele-Syria* (or *Hollow Syria*) of ancient geography. The little river *Leontes* (or *Nahr el-Liettany*) runs through this valley, and discharges its waters into the Mediterranean, a short distance to the northward of *Soor*, the ancient Tyre.

The more northerly portion of the Syrian coast-region exhibits a range of mountains fronting the sea, with a long valley behind, or towards the interior. This valley is watered by the river *Orontes* (now called *Nahr el-Ahsy*), which has a northward course, until, breaking through the mountain-region, it bends to the westward, and enters the Mediterranean. Immediately to the south of the mouth of the *Orontes* is the peak of *Jebel Okrah*, the Mount Casius of antiquity, which reaches upwards of 5000 feet above the sea. To the north of this river, the mountains—there known as the *Amanus* of classic geography—extend along the shores of the Gulf of Scanderoon, and become connected with the *Taurus* range, on the border of Asia Minor.

Palestine, or the Holy Land, begins to the southward of Mount Hermon, or *Jebel esh-Sheikh*, in lat. $33^{\circ} 25'$, and embraces the remaining portion of Syria. On the west, it is limited by the Mediterranean; on

* That is, "mountain of the old man," or sheikh, from a fancied resemblance traced in the snow, which lies in long ridges upon the sides of the mountain, to the white beard of a venerable sheikh. *Jebel* is the common Arabic term for mountain, as *tagh* (or *daqh*) is in the Turkish dialects. *Ras* signifies, in Arabic, a cape; *nahr*, a river; *wady*, the bed of a water-course, whether dry or otherwise.

the east and south by the Syrian and Arabian Deserts ; the mountains of Lebanon mark its northern frontier.

The most remarkable feature in the physical geography of the Holy Land is the long and narrow Valley of the Jordan, which runs through the entire length of the country, from north to south. This valley (which does not measure more than five or six miles across on an average, and nowhere exceeds ten or twelve miles) is considerably depressed below the level of the country upon either side, and even below the level of the waters of the globe. It forms, in fact, a deep ravine, or cleft, the lowest portion of which is occupied by the Dead Sea, which receives the stream of the Jordan. The surface of the Dead Sea is upward of 1300 feet *lower* than the level of the Mediterranean.

The high country upon either side of the Valley of the Jordan forms a succession of elevated plains, with a varied surface, consisting of alternate hills and valleys. There are no continuous ranges of any extent in this part of Syria, excepting those formed by the hills which bound the Valley of the Jordan and the waters of the Dead Sea. Between the Jordan and the Mediterranean coast, however, different portions of the upland country are distinguished as the Mountains of Galilee, the Mountains of Samaria, and the Mountains of Judæa, according as they extend through the provinces which anciently bore those names. Upon the sea-ward coast of Galilee is the promontory of Carmel, which bounds the Bay of Acre to the southward, and rises to 1200 feet above the waters that wash its base. In the interior are Mount Tabor, a conical hill rising to 1000 feet above the plain at its foot, and the little chain of Gilboa. The most conspicuous among the mountains of Samaria are the hills of Ebal and Gerizim (the latter rising to 2400 feet above the sea, though less than half that height above the plateau on which it stands), upon either side of the fertile vale of Shechem. On the borders of Samaria and Judæa is Mount Quarantana, rising to 1500 feet above the Valley of the Jordan, which it adjoins. The Mount of Olives, to the eastward of Jerusalem, rises to 2724 feet above the sea, but its absolute height above the plain is inconsiderable, since Jerusalem itself stands upon the surface of a high plateau, at an elevation of more than 2500 feet.

The high grounds to the eastward of the Jordan embrace the mountains of Gilead and the pastoral plains of Bashan. A summit called Jebel Osha*, to the southward of the Jabbok, appears to be one of the most conspicuous elevations, but its height has not been ascertained. The situation of the "Mount Nebo" of the Bible is unknown, excepting from the intimation of its position as "over against Jericho."

The principal plains or valleys in the Holy Land are—the Valley of the Jordan, which is for the most part arid and desert; the Plain of Esdraelon, in the southern half of Galilee; and the Plain of Sharon, which stretches along the Mediterranean coast from the neighbourhood of Mount Carmel southward to Joppa. The Plain of Acre—of smaller extent—is the level tract that lies around the Bay of Acre, to the northward of Carmel. The Plain of Judæa, in the southern division of

* From the name of the prophet Hosea, said to have been buried there.

the Holy Land, embraces the western slopes of the hill-country, between the central table-land and the sea.

The Plain of Esdraelon—the “Valley of Megiddo” of the Old Testament—is naturally a rich and fertile tract; so also is the Plain of Sharon.

There are, besides, a great number of smaller valleys—as the Valley of Ajalon and others—most of which are watered and fertile. In fact, Palestine is throughout a land of hills and valleys, of springs and running streams, and possesses natural beauties of no ordinary description, although, after the lapse of ages of neglect and decay, the hills are now often bare, and the fields uncultivated.

The principal river of Palestine is the Jordan, which draws its waters from the lower slopes of Hermon, and runs southwardly into the Dead Sea, passing on its way through the Lake of Tiberias. A straight line drawn from the source of the Jordan to its mouth measures little more than 100 miles; but the course of the river is exceedingly winding, so much so, that between the Lake of Tiberias and the Dead Sea, a direct distance of less than 70 miles, it meanders through 200 miles. The Jordan has a swift current, and forms numerous rapids, with, in some places, falls of ten or fifteen feet in height. The depth and volume of water vary with the season; it is fordable in several places during the dry weather, while at other times its depth exceeds ten or twelve feet, with a breadth of from 100 to 140 feet. During the dry season, the river flows between steep banks of clay; in the winter it overflows its banks and inundates the adjacent plains.

The Jordan receives two perennial tributaries—the Yarmouk (ancient *Hieromias*) and the Jabbok, both of which joins it from the eastward. The river Arnon, which enters the Dead Sea on its eastern side, belongs to the same valley.

Of the streams that flow towards the Mediterranean within the limits of Palestine, only two are perennial. These are the little rivers Kishon and Belus, both of which enter the Bay of Acre. The Kishon, which flows along the northern base of Mount Carmel, becomes an impetuous torrent during the season of rain (Judges v. 21.); at other times it is a mere brook. This, indeed, is the general characteristic of the smaller rivers of the Holy Land, none of which, excepting those named above, are perennial streams.

The Jordan valley includes three lakes—the Waters of Merom, the Sea of Galilee (or Lake of Tiberias), and the Dead Sea. The two latter are of considerable size.

The lake referred to in Scripture as the “Waters of Merom,” (*Lake Samochonitis* of classical geography) is shallow, and the northern portion of it rather an extensive marsh than a lake. It bears the modern name of Bahr-el-Huleh.

The Lake of Tiberias, also called the Sea of Galilee, the Lake of Genesareth, and (in the Old Testament) the Sea of Chinnereth, measures fourteen miles long by seven broad, and covers an area of about seventy-six square miles. Its water is fresh and clear, and, as in ancient times, it abounds in fish.

The Dead Sea extends forty-six miles in the direction of north and south, and ten miles in average breadth, and covers an area of about 360 square miles. Its water is intensely salt, more so than almost any

other on the globe, nearly one-fourth part of its weight consisting of saline particles*, and, as a consequence, it is distinguished also by great density. The extreme saltiness of the Dead Sea prevents any fish from existing in its waters. One remarkable product of this sea is the mineral substance called asphalt, or bitumen, which is found floating on its waters. Hence was derived its ancient name of *Lake Asphaltites*.

The depth of the Dead Sea is, for the most part, very great, in many places upwards of 1000 feet. But the southward extremity of the sea, below a peninsula formed on its eastern shore, is shallow. Owing to its density, the water is exceedingly buoyant. The only vegetation found around its shores is in the immediate neighbourhood of the few springs of fresh water that occur. The climate of the whole region in which this lake lies, owing to its great depression, and the way in which it is shut in by the adjacent mountains, is intensely hot — more so than any other part of the Holy Land.

3. Of the countries situated within the basin of the Euphrates and Tigris, the most northern part belongs to the plateau of Armenia, and is a succession of high mountain-chains and elevated valleys: the latter, however, are very fertile, though the climate is severe, and snow falls in winter to a great depth. AL-JEZIREH (or Mesopotamia), between the upper courses of the rivers, contains some fertile tracts, but great part of it is desert (Art. 457). To the eastward of the Tigris, extending to the frontier of Persia (and partly, indeed, within the limits of that country), is Koor-distan, — a mountainous and picturesque region, inhabited by the warlike race of the Koords.

IRAK-ARABI (or Babylonia), further to the south, is naturally very fertile, but the rivers annually inundate all the tracts adjacent to the lower portions of their course, and convert them into immense swamps and marshes. In ancient times, however, when the superfluous waters were carried off by canals (the numerous beds of which still remain), this region was in the highest state of culture, and supported a large population.

Excepting in Armenia and some parts of the interior of Asia Minor, Asiatic Turkey has in general a warm and delightful climate, and exhibits a diversity of productions (both in the vegetable and animal kingdoms) as great as any part of the continent.

The climate of Palestine is warm, especially in the plains near the coast and in the valley of the Jordan; indeed, the latter district is, owing to its depression, the hottest portion of the country. At Jerusalem, the

* The average proportion of salt contained in the waters of the ocean does not amount to more than between 3 and 4 per cent.

mean temperature of spring is 60·5, of summer 73·8, of autumn 66·5, of winter 49·6, and of the year 62·6. The winter is mild in the plains and valleys, but severe in the uplands beyond the Jordan, and all over the hilly districts. Snow sometimes falls in December, but is more frequent in the months of January, February, and March.

In Palestine, and along the Syrian coast in general, rain falls at intervals from the middle or end of September to the end of April; it is most abundant in the months of December, January, and February, and again from the middle of March to the middle of April. During the dry season the sky is uniformly clear: the night-dews are very heavy in the months of August, September, and October.

(468.) *Inhabitants.*—The population of Asiatic Turkey is of very mixed character, embracing Turks, Greeks, Syrians, Jews, Arabs, Armenians, and Koords, besides the Druses and numerous other tribes who dwell among the mountains of the Syrian coast. The high plains in the interior of Asia Minor are occupied by the Turkomauns, a wandering and pastoral race, who in summer drive their flocks over the elevated open tracts, and in winter descend to the valleys in the neighbourhood of the towns. They are a people of warlike habits; some of their tribes dwell in tents during the summer, but have fixed villages for their winter-quarters, while others live in tents all the year round. The Koords, whose proper seat is on the borders of Turkey and Persia, and who are the most warlike and predatory race in the Turkish dominions, have also penetrated into the eastern parts of Asia Minor: some of the Koords have fixed habitations, and occupy themselves in the working of metals, weaving, and similar pursuits; others are nomads, and dwell constantly in tents. Throughout Asiatic Turkey, as in the European provinces of the empire, the Armenians are the most industrious class of the population (Art. 371).

The whole of Turkey in Asia is very thinly inhabited; large tracts of the most fertile land are everywhere found lying destitute of cultivation, and numerous villages and towns falling into decay. The Turks (in Asia Minor, especially) are decreasing in number, while the Greek and Armenian part of the population is steadily increasing.

(469.) *Industrial pursuits.*—These are throughout in a backward condition. Owing to the oppressive exactions of the government, and the want of security in the possession of property or the enjoyment of the fruits of labour, the cultivation of the soil is only scantily pursued. Great numbers of horses and cattle are reared in the interior of Asia Minor, and in the neighbourhood of Angora is found the breed of goats which furnish

the fine and silky hair used in the manufacture of the valuable mohair shawls. In Armenia, although the winters are severe, the summers are very warm; grapes are abundantly grown upon the sides of the hills, and tobacco in the plains. Melons and other fruits are also abundant. Excellent crops of wheat, barley, rice, and maize, are raised in Irak-Arabi, and tobacco, hemp, and flax, are also cultivated. Tobacco is also grown in many parts of Syria, and that produced at Latakia has a high reputation. The date-palm, which thrives wherever a sufficient supply of water can be obtained, furnishes everywhere a principal article of food.

Manufactures are but little pursued, except in a few of the larger towns, in which silk and cotton fabrics, gold and silver thread, shawls, turbans, leather, and soap, are made to some extent. Among the wandering tribes in the interior of Asia Minor, the women weave the wool of their sheep into fine carpets, but this occupation is only pursued to a limited extent. Caps of silk, cotton, and gold thread,—silk sashes and cords,—gold and silk sabre-cords,—silk-gauze shirts, veils, and cloaks,—with slippers, tassels, divan-covers, turbans, and numerous similar articles, all of highly ornamental character, are enumerated among the productions of Turkish industry.

The commerce of the country, which is confined to a few principal points on the coast, and centres of caravan-traffic in the interior, consists in the export of raw silk and cotton, goats' hair, raisins and other dried fruits, with some dye-woods, herbs, roots, and balsams; besides these are gold and silver lace, silk fabrics, Turkey carpets, and shawls. The imports are European manufactures,—embracing cotton, silk, and woollen goods, hardware, glass, and metals,—these being mostly articles of British produce.

Smyrna and Trebizond, in Asia Minor,—Beyrout, in Syria,—and Basra, near the head of the Persian Gulf,—are the chief seats of the maritime traffic. Among the principal centres of inland trade are Kaisariyeh, in Asia Minor,—Aleppo and Damascus, in Syria,—Erzeroom, in Armenia,—and Bagdad, on the Tigris.

The means of internal communication are very defective; there are few regular roads, and travellers require to associate themselves into companies (or caravans) for mutual protection.

(470.) *Divisions.*—The political division of Asiatic Turkey—like that of the European portion of the same empire—is into pashalicks, the limits of which fluctuate with the power of the respective governors.

1. The extensive peninsula of ASIA MINOR includes the provinces and towns mentioned in the following Table:—

Provinces.	Towns, with population.
Anatolia - - - -	Smyrna, 130,000 — Brusa, 70,000 — Kutayah, 50,000 — Angora, 50,000 — Aidin (or Guzel-hissar), 30,000 — Sinope — Ereklî.
Roum - - - - -	Sivas, 30,000 — Tokat — Amasia.
Trebizond - - - -	Trebizond, 25,000.
Karamania - - - -	Koniyeh, 30,000 — Kaisariyeh, 30,000.
Adana - - - - -	Adana, 10,000 — Tarsus, 7000.
Marash - - - - -	Marash.

Smyrna, the largest city in Asiatic Turkey, is situated at the head of a fine gulf, upon the western coast of Asia Minor: it is an important seat of trade, and the chief emporium of the Levant. Its commerce is almost entirely carried on by Europeans, (or Franks, as they are termed

in the East), amongst whom are English, French, Dutch, and Italian merchants, together with people of other nations.

Smyrna is a place of great antiquity ; it was one of the seven churches addressed by St. John in the Revelations, and is the only one of the number that possesses any modern importance. Of the other six, Ephesus now consists only of a few remains lying beside the village of Aiasalook (near the coast, to the southward of Smyrna),—Pergamos (or Bergamo) on the bank of the Caicus, and Thyatira (now Ak-hissar) on a branch of the Hermus, are both inconsiderable towns,—Sardis (to the eastward of Smyrna) is at present a wretched village,—Philadelphia, farther in the interior, is a small town called Allah-shehr,—and Laodicea, now Eski-hissar, is entirely in ruins, and without any inhabitants.

Kutayah, which ranks as the provincial capital of Anatolia, is a large town in the interior, on the high road between Constantinople and Aleppo.

Angora (the ancient Ancyra), 150 miles to the E. N. E. of Kutayah, stands beside a small stream which joins the Sangarius. The goats reared in its neighbourhood supply the fine silky hair, or wool, used in the manufacture of shawls. The historic fame of Angora is great, and the fate of empire has more than once been decided upon the adjacent plains. It was here that the army of Bayazid, the Ottoman Sultan, was defeated by the Mogul host, led by Tamerlane, A.D. 1402.

Brusa, to the north-west of Kutayah, lies not far distant from the shore of the Sea of Marmora, at the foot of the high mountain of Keshish Dag (the Bithynian Olympus). It represents the ancient Prusa, once the capital of Bithynia. *Isnik*, the ancient Nicæa, to the eastward of Brusa, now a poor town, is famous in ecclesiastical history. *Izmid*, further to the northward—at the upper extremity of a gulf of the Sea of Marmora—represents the ancient Nicomedia, the residence of the Bithynian kings, and the capital of Diocletian's empire.

Upon the northern coast of Anatolia, along the line of the Black Sea, there are several small ports, amongst them *Erekli* (the ancient Heraclea Pontica), *Amasserah* (formerly Amastria), and *Sinope*. Good coal is found in the neighbourhood of *Erekli*.

The north-western corner of Asia Minor includes the district of the Troad. The site occupied by Troy, however, has furnished only a theme of discussion to antiquarians. The wooded heights of Ida preserve the same aspect as of old, but the rivers that water the Trojan plain appear to have (at least in part) altered their courses, and the famous streams of the Simois and Scamander are recognised with difficulty. The small town of *Eski Stamboul* (or Alexandretta), on the coast of the Archipelago, represents the Alexandria Troas of antiquity. *Adramyti*, the ancient Adramyttium, is to the eastward, near the head of a gulf to which its name is given.

The town of *Boodroom*, near the south-western corner of the peninsula of Asia Minor, occupies the site of the ancient Halicarnassus, the birth-place of Herodotus. *Marmaras* (or Marmorice), upon an inlet farther to the eastward, possesses one of the most magnificent of natural harbours. Still further to the eastward (but within the limits of Anatolia), are the small seaport towns of *Makri* and *Adalia*.

Sivas, the capital of the pashalick of Roum or Sivas, stands on the high summit of the interior table-land, not far below the source of the Kizil Irmak. It occupies the site of the ancient Sebaste. *Tokat*, a town

of some size, is to the north-westward; as also is *Amasia* (the birth-place of Strabo), on the stream of the Yeshil Irmak, the river Iris of classical geography. *Samsoun*, on the Black Sea, is the port of Sivas.

Trebizond, on the coast of the Black Sea, besides being an important seat of trade, derives interest from its antiquity. It represents the Trapezus of classic geography—the place where the 10,000 Greeks, under the guidance of Xenophon, reached the waters of the Euxine in the course of their famous retreat. During the middle ages, Trebizond formed (under the merchants of Genoa) an emporium of trade between the east and the west.

Koniyeh, the chief interior city of Karamania, represents the Iconium of antiquity—famous in connection with apostolic history. Its present appearance, like that of so many other of the cities of western Asia, indicates ruin and decay. *Kaisariyeh* (140 miles to the N. E. of Koniyeh), at the foot of Mount Argæus, corresponds to the ancient Cæsarea Mazaca, once the capital of Cappadocia. *Tarsus* (the birth-place of the Apostle Paul) and *Adana*,—both places of some trade—lie not far distant from the Mediterranean coast, in the south-eastern corner of the peninsula. The little stream of the Tarsus-Chai (the Cydnus of ancient geography), upon which Tarsus is situated, possesses historic repute, due to the coldness of its water. Alexander the Great nearly lost his life from bathing in it, and such a fate actually befel a later monarch, Frederick Barbarossa.

2. SYRIA embraces the pashalicks of Aleppo, Tripoli, Acre, and Damascus, the last named of which comprehends the larger portion of the Holy Land.

Aleppo (100,000 inhabitants), the principal city of Northern Syria, was formerly larger and more important than at present, but has suffered from numerous and destructive earthquakes. It still possesses considerable manufactures (chiefly of silks, gold and silver thread, and cotton-goods), and has great inland trade. *Scanderoon* (or *Iskenderoon*), upon the gulf to which its name is given, at the N. E. corner of the Mediterranean, is the port of Aleppo: it is a wretched place, enclosed on the land side by marshes, but possesses a good harbour. *Antakia*, the ancient Antioch, stands on the south bank of the Orontes, a few miles above its mouth. It is now a small town, of little note, but has an important place in history. *Hamah*—the Hamath of Scripture—with 30,000 inhabitants, is a town situated on the upper Orontes, upon the line of caravan route between Aleppo and Damascus.

The pashalicks of Tripoli and Acre embrace the narrow tract of land that extends along the Syrian coast, between the mountains and the sea. This region nearly coincides with the Phœnice of the ancient world—famous for the enterprise of its merchants, and the skill of its mariners. Several small sea-port towns occur along the rugged line of coast which stretches to the southward of the Orontes, many of them the representative of cities that were famous during the classic ages. Amongst them are *Latakia*, *Tripoli*, *Beyrout*, *Saida*, *Soor*, and *Acre*, which respectively coincide with the Laodicea, Tripolis, Berytus, Sidon, Tyre, and Ptolemais (or Accho) of a former day. Midway between Latakia and Tripoli, the small island of Ruad (near the

coast) represents the Arvad of Scripture, and the Aradus of classic geography.

Beyrout (lat. $33^{\circ} 54'$), with 40,000 inhabitants, is the port of Damascus, and the most flourishing among the coast-towns of Syria in the present day. *Saida* (the ancient Sidon), and *Soor*, the representative of Tyre, are insignificant places, altogether fallen from the importance which they formerly possessed. *Acre* (or Akka), further south, lies upon the north side of the fine Bay of Acre, which is limited to the southward by the promontory of Carmel. Acre is a strong fortress, and has acted an important part in many events of modern history, as well as during the Crusading period, when it was celebrated under the name of St. Jean d'Acre.

Damascus, with 120,000 inhabitants, is now the largest town in Syria. It lies at a distance of about 60 miles from the coast, in a fine plain, watered by the little river Barrada, which flows from the eastern slopes of Anti-Libanus, and loses itself in a marshy lake to the eastward of the city. Beyrout bears from Damascus in the direction of W. N. W., the road between them crossing the double range of the Lebanon. Damascus has manufactures of silk and cotton, gold and silver thread, &c., and is a great centre of caravan trade. It is one of the oldest cities referred to in the annals of the past, and has maintained its importance in all periods of history. In the midst of the Syrian desert (124 miles to the N.E. of Damascus) are the ruins of the ancient city of *Palmyra*—the Tadmor of Scripture (1 Kings, ix. 18.), which name they still bear. The ruins of Heliopolis (or Baalath), now called *Baalbek*, lie to the N. W. of Damascus, in the valley between the Libanus and Anti-Libanus ranges. Both Palmyra and Baalbek are celebrated for their magnificent remains of ancient art.

(471.) PALESTINE, or the HOLY LAND, embraces the south-western portion of Syria, consisting of the country upon either side of the Jordan (Art. 467). This region abounds in the remains of ancient towns and villages, and possesses historic interest of the highest order; but it is thinly populated in the present day, and the works of its former inhabitants have for the most part gone to decay.

The western division of the Holy Land (between the Jordan and the Mediterranean) embraces the ancient provinces of Galilee, Samaria, and Judæa—the country occupied by ten out of the twelve tribes of Israel. The two remaining tribes, together with half of the tribe of Manasseh, occupied the country to the east of the Jordan, known to the ancients as *Peræa*.

Jerusalem, the most prominent point of interest in the Holy Land, is situated within the limits of ancient Judæa, about midway between the Dead Sea and the Mediterranean coast. It stands upon a rocky plateau, surrounded on three sides by deep ravines, and at an elevation of 2535 feet above the level of the sea. The ravine to the eastward of the city is the valley of Jehoshaphat of Scripture: that to the southward is the valley of Hinnom, and to the west is the valley of Gihon. The Brook Cedron (or Kidron) runs in a southwardly direction through the Valley of Jehoshaphat, and discharges its waters into the Dead Sea. But its stream becomes dried up during the summer months. The Mount of Olives, upon the east side of the Cedron valley, rises to 2724 feet above the sea, and overlooks the city.

Jerusalem bears among the modern inhabitants of Palestine the name of *El-Koods* (i. e. "the Holy"). Its present extent is less than in ancient times, and a portion of Mount Zion is now without the walls. The site of the Temple (upon Mount Moriah — on the eastern side of the city, immediately above the valley of the Cedron), is occupied by the Mosque of Omar, a Mohammedan structure. The so-called "Church of the Holy Sepulchre" — said by monkish tradition to include the site of the crucifixion, and the sepulchre within which the body of Our Lord was lain — is situated in the very heart of the city.

Modern Jerusalem contains about 12,000 (or, according to some estimates, 15,000) inhabitants. The Christians, Turks, Armenians, and Jews, occupy different quarters of the city, which is surrounded by a wall, and is entered by four gates. That to the southward leads to the village of Bethlehem — the birth-place of Our Saviour — which is about four miles distant.

Hebron (which bears the modern name of *El-Khulil*) is 18 miles to the southward of Jerusalem. It stands upon the central plateau, at an elevation of 2800 feet above the sea, and has about 8000 inhabitants. The tract of country about Hebron, to the south and east, and, in fact, the whole of ancient Judæa, abounds in ancient sites. Ziph, Carmel, Maon, Tekoah, En-gedi, Arad, Beersheba, and numerous other places that are familiar to the reader of the sacred volume, are all represented by sites that bear the same, or nearly the same, names among the wandering Arab population who chiefly occupy this portion of the Holy Land in the present day. In most cases, however, nothing but ruins, or a few wretched hovels, are now found at these spots. Jarmuth, Bethshemesh, Zorah, Ekron, Kirjath-jearim, Ajalon, are found to the westward — Mizpeh, Gibeon, Beth-horon, Gibeah, Michmash, Bethel, and other places, to the northward — of the Holy City.

Jaffa (or *Joppa*), upon the Mediterranean coast, 40 miles to the W. N. W. of Jerusalem, is the port of that city, and has about 7000 inhabitants. Between Jerusalem and Jaffa, but nearer the latter, are *Lod* — the Lydda of the New Testament (Acts, ix. 32.), and *Ramleh*, the latter a small town of some note in connection with the history of the Crusades.

The tract of country to the south of Jaffa, along the sea-coast, formed anciently the territory of the Philistines, whose five principal cities (or "lordships" — Joshua xiii. 3.), were Ekron, Gath, Ashdod, Ascalon, and Gaza. Of these places, Gaza alone possesses any modern importance. Ashdod (now *Esdood*), and Ekron (or *Akeer*, as it is now called), are poor villages; Ascalon is entirely in ruins; and the site occupied by Gath is unknown. Gaza, situated near the coast, at the S. W. corner of the Holy Land, has 16,000 inhabitants, and derives importance from its position on the line of caravan-route to Egypt.

The town of *Nablous* (the ancient Shechem)* lies 34 miles to the northward of Jerusalem, in a fertile valley between the twin summits of Ebal and Gerizim. It contains 8000 inhabitants, and is, next to Jerusalem and Gaza, the most considerable place in modern Palestine. Nablous lies in

* Sychar of the New Testament. The Greek name for the town was Neapolis, whence its modern appellation is derived. But in most cases the sites in the Holy Land have preserved, with remarkable tenacity, their scriptural names.

the midst of the ancient province of Samaria. The ruins of the city of Samaria (the Sebaste of classical geography) are a few miles distant to the N. W. Upon the sea-coast (36 miles north of Joppa) are the remains of the ancient *Cæsarea*, now tenanted only by foxes, jackals, and other wild animals.

Galilee, to the northward of Samaria, contains *Nazareth*, the residence of Our Lord; and *Tiberias*, upon the western shore of the beautiful lake called by its name (Art. 467.). *Nazareth* is a small town with 3000 inhabitants: *Tiberias* has only two-thirds of that number. *Bethsaida* of Galilee, *Chorazin*, *Capernaum*, and other places that were anciently situated beside the lake, no longer exist, though, in some cases, a few ruins mark the sites they occupied. *Cana of Galilee* (John ii. 1.), now a ruined village, is a few miles to the north of *Nazareth*.

Mount Tabor is eleven miles to the S. W. of *Tiberias*, upon the northern side of the fertile plain of *Esdraelon* (Art. 467). Its summit commands a fine view of the waters of the lake. In the plain to the southward, the sites of *Nain*, *Shunem*, *Endor*, *Jezreel*, *Bethshan*, *Megiddo*, and other places, are indicated by villages which bear their names. In the more northward portion of Galilee is the small town of *Safed*; still further north, the ruined village of *Kedes* marks the site occupied by the *Kedesh-Naphtali* of the Old Testament. The village of *Baneas*, near the principal source of the Jordan, corresponds to the *Cæsarea-Philippi* of Matthew xvi. 13. and Mark viii. 27.

The country beyond Jordan contains no town of any modern note — scarcely even any village with more than a few hundred inhabitants. But it has several sites to which historic interest attaches. Among these are, *Ashtaroth*, *Gadara*, *Gerasa*, *Rabbath-Ammon* (or *Philadelphia*), *Heshbon*, *Bozrah*, and many others. The three “cities of refuge” on the eastern side of the Jordan have not been recognised in any modern sites — unless *Ramoth-Gilead*, one of them, be found in a ruined village to the southward of the *Jabbok*. The extensive plain of *Hauran*, to the southward of *Damascus*, abounds in ruined villages, — evidence of the former populousness of a tract which is now uncultivated, and almost without any fixed inhabitants. This plain answers to the *Auranitis* of classical geography. Its more southward portion falls within the land of *Bashan* of the Old Testament. To the northward are the districts of *Ituræa* and *Paneas* — the latter near the source of the Jordan; to the east, the stony region called *Trachonitis* (Luke iii. 1.).

3. The TURKISH PROVINCES ON THE EUPHRATES AND TIGRIS embrace, in the north, the pashalicks of *Erzeroom*, *Moosh*, and *Diarbekir*, which belong to the upland region of the Armenian plateau. The pashalicks of *Van* and *Bayazid* (to the eastward of *Erzeroom*) also constitute part of the highland region, and the last-named extends to the summit of Mount *Ararat*. The pashalick of *Kars*, still further north, falls chiefly within the basin of the *Aras* and the *Kour* rivers, and embraces the highland country about the sources of those streams.

To the southward of *Diarbekir* and the chain of *Mardin Tagh* (the ancient *Amanus*), begins the lowland region, which extends — over the middle and lower courses of the *Euphrates* and *Tigris* — to the head of the *Persian Gulf*. The greater part of this is embraced within the extensive pashalick of *Bagdad*. The smaller pashalicks of *Orfah* and

Mosul comprise its more northerly portion, towards the borders of the highland region.

Koordistan — a mountain-region — includes the high country to the eastward of the Tigris, on the borders of Persia, together with a large portion of the Armenian plateau, about the upper courses of the Tigris and Euphrates. This country, which derives its name from its warlike and often predatory inhabitants, the Koords, does not form, properly speaking, a political division of Turkey. The Koords extend their range over several of the pashalicks within the Turkish limits, and also over part of the adjacent territories of Persia.

The names of these divisions, with the principal towns in each, and their population, are enumerated below : —

Provinces.	Towns.
Erzeroom - - - -	Erzeroom, 30,000.
Moosh - - - -	Moosh, 5000.
Diarbekir - - - -	Diarbekir, 30,000.
Van - - - -	Van, 15,000.
Bayazid - - - -	Bayazid, 5000 — Diyarbin.
Kars - - - -	Kars, 12,000.
Orfah - - - -	Orfah, 20,000.
Mosul - - - -	Mosul, 40,000.
Bagdad - - - -	Bagdad, 60,000 — Basra, 50,000 — Hillah.
Koordistan - - -	Bilis — Amidiah.

Erzeroom is not far distant from the source of the Euphrates. The plain upon which it stands is more than 6000 feet above the level of the sea, and its winter climate is consequently one of great severity. The heat of summer exhibits, in an equal degree, the opposite extreme. The commerce of *Erzeroom* is less extensive than that which it enjoyed at a former period, when (under the agency of the Genoese merchants) the rich productions of the East passed through it, for shipment at *Trebizond*, from which it is 120 miles distant.

Diarbekir stands on the river *Tigris*, about forty miles below its source. Its commerce, once considerable, has greatly declined in modern times. *Diarbekir* represents the ancient city of *Amida*, the siege of which, by *Sapor*, king of Persia, (A. D. 359), forms an event famous in history. The town of *Van* stands upon the eastern shore of the large lake of that name. *Kars* (110 miles N.E. of *Erzeroom*, and not far distant from the Russian frontier), occupies an elevated and commanding position, beside a small stream which joins the *Arpa-chai*, a tributary of the *Aras*. Its heroic (though unavailing) defence, when besieged by the Russians in 1855, forms one of the most striking passages in modern history. *Batoum*, on the Black Sea, the nearest port to *Kars*, is 105 miles distant.

The town of *Orfah* lies in the north-western part of the great plain that stretches between the middle courses of the Euphrates and *Tigris*. This plain coincides with the *Mesopotamia* of ancient geography, and bears the modern name of *Al-jezireh*, or “the island,” an appellation which the Orientals are accustomed to apply to peninsulas as well as islands. The rivers nearly enclose it on every side, and justify the term *Mesopotamia* given to it by the Greeks, as well as that of *Aram-Naharaim* (*i. e.* *Aram* between the rivers) which it bears in the Old Testament.* *Orfah* is generally assumed to represent “*Ur* of the Chaldees,” the birth-place of the patriarch *Abraham*, and it coincides with the *Edessa* of a later

* Or *Padan-Aram* — that is, the plain of *Aram*, or *Syria*.

period, famous in the history of the Crusades. The village of Haran, twenty-five miles S.E. of Orfah, is the Haran of Scripture (Gen. xi. 31.).

Mosul, on the right bank of the Tigris, is famous in Oriental history; but its most attractive interest is derived from its proximity to the ruins of Nineveh, which are situated upon the opposite side of the river. The huge mounds and excavations whence so many works of Assyrian art have been obtained within recent years, extend over a space of more than 30 miles along the eastern bank of the Tigris.

(472.) The plain which adjoins the lower courses of the Euphrates and Tigris bears the modern name of Irak-Arabi, and coincides with the Babylonia of ancient geography. Numerous artificial channels here connect — or diverge from — the great rivers. These are the works of a former age, and were designed to irrigate the plain, vast tracts of which are now left desolate and uninhabited. The fixed population is found only in the few cities beside the banks of the rivers. The wandering Arab roams over the intervening waste, and gazes with awe upon the huge mounds, the ruins of a by-gone period, with which it is everywhere covered.

The city of *Bagdad* is situated principally upon the left or eastern bank of the Tigris. Its present aspect exhibits a great decline from the importance which it formerly possessed, when it formed the capital of the wide-spread empire of the Caliphs. But Bagdad is still flourishing, and has manufactures of silk, cotton, and leather goods, besides well-furnished bazaars. About twenty miles to the S.E. are the ruins of the ancient Seleucia, on the right bank of the Tigris; and opposite to them, on the left-hand side of the stream, the remains of Ctesiphon, the capital of Persia under the Sassanian monarchs.

The small town of *Hillah*, on the Euphrates, (sixty miles south of Bagdad), is only interesting from its situation amidst the ruins of ancient Babylon, the huge mounds of which are spread over a vast space around,—all, with the exception of the largest (the Birs Nimroud, or “Tower of Nimrod”) upon the eastern side of the river. *Basra*, or Bassora, one of the chief commercial emporiums of Asiatic Turkey, stands on the right bank of the Shat-el-Arab (as the united stream of the Euphrates and Tigris is called), about fifty miles distant from the head of the Persian Gulf.

(473.) THE ISLANDS that belong to Turkey in Asia comprise Cyprus, situated in the eastern part of the Mediterranean, together with Rhodes, Cos, Samos, Chios, Mytilene, and numerous others, in the eastward portion of the Archipelago, and near the coasts of Asia Minor.

Cyprus is a large and beautiful island. Two mountain-ranges extend respectively along its northern and southern coasts, with a fertile and watered plain between. The present population of the island does not exceed 100,000, principally of the Greek race. In former times, the number of its inhabitants was much more considerable, but most of the land has been allowed to go out of culture. Cyprus appears, however, to be now slowly recovering from the decay to which the misgovernment of centuries had reduced it.

The capital of the island is *Nicosia*, (or *Lefkosia*), in the interior. *Famagousta*, on the eastern coast, and *Larnaka*, in the south-east,

are the two principal ports. *Baffa*, on the south-western shore, represents the ancient Paphos, the celebrated shrine of Venus.

Many of the smaller islands of Asiatic Turkey possess historic repute,—none more so than Rhodes, a beautiful and fertile island, with a city of the same name. Rhodes was long the stronghold of the Knights of St. John, after the expulsion of those stout warriors from the Holy Land. When at length forced to yield to the overwhelming arms of the Saracens (A.D. 1503), they retired from Rhodes to Malta, which their descendants long retained.

(474.) The government of Asiatic Turkey is similar to that of the European provinces of the empire (Art. 383.). The Turks, and also the Arabs, are universally followers of the Mohammedan religion; the Armenians are members of the Christian Church. Numerous sectaries, both of the Mohammedan and Christian Churches, are found among the tribes of mountaineers who inhabit the Syrian coast.

SECTION II.—ARABIA.

(475.) *Boundaries and Extent.*—Arabia is a large peninsula in the south-west of Asia: it is bounded on the north by the Syrian Desert, on the west by the Red Sea, on the south by the Gulf of Aden and the Indian Ocean, and on the east by the Gulf of Omaun and the Persian Gulf. Its area exceeds a million of square miles.

(476.) *Natural Features, Climate, &c.*—A narrow belt of lowland, varying from between 20 and 30 miles to a single mile in breadth, extends along the greater part of the coast of Arabia; this is called the Gaur, or Tehama, and is in general hot and arid, consisting of sand covered with saline incrustations. The interior of the country forms a series of high plateaus, mostly desert, but between these and the low plain of the coast is a mountain-region, the valleys among which are very fertile: these produce an abundant vegetation, in which the date-tree is everywhere conspicuous.

Arabia has no rivers, properly so called, but numerous perennial springs occur among the mountain-valleys, and in the oases of the interior deserts. The climate is strictly tropical, and the year divided into the dry and the rainy seasons: in the interior of Yemen (the south-western part of the peninsula) showers fall from the middle of June to the end of September; during the dry season a cloud is scarcely ever seen, and in the low belt of the Tehama a whole year often passes without a single drop of rain.

(477.) *Inhabitants.*—The population of Arabia is supposed to amount to about twelve millions. The people are

divided into a great number of tribes. each one of which is independent of the others, and is governed by its own chief or *sheikh*, who is generally one of the elders of the tribe, and usually inherits his office by right of descent. The Arabs are divided between the dwellers in town and the inhabitants of the desert; the latter are called *Bedouins* (or Bedoweens), and lead a wandering life, living in tents, and changing the site of their encampments as the necessity of finding pasturage for their flocks makes it requisite. Their wanderings, however, are always restricted within certain limits, each tribe having its own proper district, beyond the bounds of which it does not pass. The Bedouins look with contempt upon the settled pursuits of those who reside in towns, and prefer the freedom of the desert—though often exposed by it to privations and hardships—to any other mode of life.

A few Jews are settled in most of the towns of Arabia, but are in general treated with contempt, and exposed to insult and indignity: they are most numerous in the province of Yemen.

(478.) *Industrial pursuits.*—Arabia is almost wholly a pastoral country, and their flocks and herds form nearly the sole wealth of its people. The camel, the horse, the goat, the sheep, and the ass, are all numerously reared, and the camel is the universal medium of transit across the desert—both for goods and passengers. The Arabs regard their horses with the greatest affection, and preserve the pedigrees of these animals with the fondest care.

The tracts susceptible of cultivation are of very limited extent, but in some of the valleys among the mountains, and also in the oases of the interior deserts, agriculture is pursued, and crops of grain (chiefly *d'hourrah*, a coarse kind of millet), together with sugar, tobacco, and abundance of fruits, are raised. These are most extensive in the southwestern province—that of Yemen, to which the tree that produces the balm, or balsam, of Mecca is confined. The coffee-tree is grown to a considerable extent in Yemen, but the finest coffees of Arabia are brought originally from Abyssinia and the adjacent countries on the opposite coasts of the Red Sea and the Gulf of Aden. Among the fruits found in the fertile mountain-valleys of the western coast are the fig, apricot, apple, peach, almond, pomegranate, wine, olive, and citron, together with the date.

Manufactures scarcely have any existence, except as a domestic pursuit among the women of the different tribes, by whom tent-covers and cloaks of coarse wool or camels' hair are made. In the towns some firearms are fabricated, as well as a few silk and woollen stuffs, and pottery.

The transit trade of Arabia was formerly considerable, this country having been for ages the medium of exchange between the rich productions of Persia and India on the one side, and those of Europe and north-eastern Africa on the other. The frankincense and myrrh, the spices, perfumes, and various rich drugs, as well as the gold and silver

the gems and pearls, which gave Arabia its ancient celebrity in the marts of commerce, were nearly all brought originally either from Eastern Africa or from India, and conveyed by caravans across the interior deserts to the towns of Syria and Asia Minor, or else by way of the Red Sea to the ports of Egypt. With the opening of other lines of communication, this commerce ceased; but (after the lapse of centuries) it is partially revived in the present day by the establishment of the overland route to India, which crosses the desert between the banks of the Nile and the town of Suez, whence steamers proceed down the Red Sea and across the Indian Ocean, calling at the town of Aden on their way.

The greater part of the interior commerce of Arabia takes place on the occasion of the *haj*, or great annual pilgrimage to Mecca, which town—as the birth-place of Mohammed, the Arabian prophet—all his followers are enjoined to visit at least once in their lives. Caravans of pilgrims from all the various countries in which the Mohammedan religion is followed (including the most eastern parts of Asia, and the most distant provinces of northern Africa,) resort each year to Mecca, and with the objects of devotion for which the pilgrimage is mainly undertaken is combined the pursuit of trade to a very considerable extent. The caravans bring with them the respective productions of the countries from which they come, and, on the completion of the religious duties of the journey, engage in a great scene of barter.

The pilgrims and other travellers who cross the Arabian deserts are under the necessity of hiring the protection of the tribes through whose territories they have to pass, as the only means of securing themselves from robbery or loss of life. There are regular halting-places in the desert, at which the camels rest after their day's journey, and at which the tents of the travellers are pitched. The ordinary length of a day's journey is from twelve to fourteen miles.

(479.) *Provinces and Towns.*—The ancients divided Arabia into three parts—Arabia Petræa (or the Rocky), the north-western part of the country,—Arabia Felix (or the Happy), in the south-west,—and Arabia Deserta (or the Desert), embracing the greater portion of the remainder. But the native division of the country is into the seven provinces of *El-tour Sinai* (or the mountain-district of Sinai, that is, the peninsula at the head of the Red Sea, between the Gulfs of Suez and Akaba),—*El-Hejaz*, along the north-western coasts,—*Yemen*, in the south-west,—*Hadramaut*, along the southern coast,—*Omaun*, in the south-east,—*El-Hassa*, or *Lahsa*, along the shores of the Persian Gulf,—and *Nejd*, or *Nedjed*, in the interior. Throughout Arabia the towns are few in number; the principal of them occur in the provinces of Hejaz, Yemen, and Omaun.

The Sinai Peninsula.—The town of *Suez*, at the head of the Gulf of that name, belongs to Egypt: *Akaba*, at the head of the eastern gulf of the Red Sea, is only a small fortress, and serves as a station for the *haj* (or pilgrim-caravan). In the heart of the peninsula is the group of the Sinai Mountains, among which—in a high valley at the foot of the summit called *Jebel Mousa* (or Mount Moses)—is a small Greek convent, inhabited by from 20 to 30 monks. The whole population of the peninsula is very scanty, and does not exceed from 4000 to 5000, nearly all of whom are Bedouins, or wandering Arabs.

A long narrow valley (the continuation of that in which the river Jordan flows) extends from the head of the Gulf of Akaba to the

southern termination of the Dead Sea : the chain of hills which bounds this valley on the east is the Mount Seir of Scripture. About the middle of this range is the summit of Mount Hor, upon which the high-priest Aaron died. Adjacent to Mount Hor, on the east, is the secluded valley of Wady Mousa, in which are the wonderful and beautiful remains of the ancient city of *Petra*, consisting almost wholly of tombs excavated in the solid rocks around.

The province of *El-Hejaz* (the Holy Land of the Arabs) includes the cities of Mecca and Medina, the former the birth-place of the prophet Mohammed, and the latter the seat of his interment. *Mecca* has about 30,000 fixed inhabitants, but these are increased to a vastly greater number during the occasion of the annual haj : *Jiddah*, a small town on the Red Sea, is the port of Mecca. *Medina* is situated to the northward of Mecca, and has about 20,000 inhabitants : *Yembo* is its port.

The chief town in the interior of Yemen is *Sana*, with about 40,000 inhabitants : *Mocha*, on the coast of the Red Sea, near its southern extremity, is a place of some trade, but *Aden*, now in the hands of the English, is at present of much greater importance.

Muscat (in the province of Omaun), on the south-east coast of Arabia, is the largest town in the country, and has about 60,000 inhabitants, who embrace a mixed population, of Arabs, Persians, Hindoos, Syrians, and Jews, and carry on a considerable commerce. Muscat constitutes the chief emporium of the trade between Persia, Arabia, and India.—*Derayah*, in the interior of Nejd, is a considerable town, the chief seat of the Wahabites, as the followers of Wahab, a Mohammedan reformer of the last century, are styled.

The island of *Bahrein*, with two others of smaller size, near the eastern coasts of Arabia, is the centre of the extensive pearl-fishery of the Persian Gulf. In its neighbourhood are found numerous fresh-water springs which issue from the bottom of the sea, and which furnish the chief supply of water to the inhabitants both of the islands and the adjacent coasts. The divers descend to the bottom of the sea, and hold their open goat-skins over the springs, which quickly become filled with fresh water.

(480.) Arabia does not constitute any single government, and has never been subject to any general rule. The most considerable of the native states are those of Omaun, governed by a sovereign styled the Imaum (or, more recently, the Sultan) of Muscat, — and Yemen, the ruler over which is the Imaum of Sana. The province of El-Hejaz, and the Sinai peninsula, belong nominally to the Turkish power, and are partially subject to the authority of the Sultan. But the tribes throughout Arabia are really independent, and submit only to the patriarchal rule of their own sheikhs.

In religion, the Arabs are universally Mohammedans. In their social condition they exhibit a mixture of good and bad qualities, combining plundering and unsettled habits, a proneness to quarrel, and the most lawless practices towards those with whom they are at feud — with the exercise of hospitality, and the practice of a cordial and disinterested generosity, in the case of those with whom they are on terms of friendship. One of their most ordinary customs — common both to the inhabitants of the towns and the Bedouins — is the practice of story-telling, by means of which the most ancient traditions have been handed down from family to family through a series of generations.

(481.) The town and promontory of Aden, situated on the south coast of Arabia, at a distance of about 110 miles east of the entrance to the Red Sea, constitutes a British possession. The promontory of Aden forms a high and rocky peninsula, rising to 1776 feet above the sea, and connected with the mainland by a narrow isthmus : the town lies on the north-east side of the peninsula, in a deep hollow (which is really the crater of an extinct volcano), and surrounded by high masses of rock.

Aden is used as a *dépôt* for the supply of coals to the steamers engaged in the intercourse between Great Britain and India, for which purpose immense quantities of this mineral are sent thither from British ports ; since the date of its possession by Britain (1839), considerable traffic with the adjacent parts of Arabia and the opposite coasts of Africa has sprung into existence. The position of Aden renders it important, and it possesses great natural strength : it is garrisoned by a detachment of British troops. The present population is about 40,000.

Aden is a town of great antiquity, and, during the period between the 11th and 13th centuries, was a flourishing emporium of commerce ; it had, however, long since fallen into a state of complete decay, from which it is now in process of rapid recovery.

SECTION III. — PERSIA.

(482.) *Boundaries and Extent.* — Persia is bounded on the north by Turkestan, the Caspian Sea, and Russian Armenia, — on the west by Turkey, — on the south-west and south by the Persian Gulf, — and on the east by Beloochistan and Afghanistan. Its area is about 500,000 English square miles. The native name of Persia is Iran*, by which term it is always mentioned in Oriental writings.

(483.) *Natural features, Climate, &c.* — The interior of Persia is a high plateau, a large portion of which is desert. In the north and east is the extensive tract called the Great Salt Desert, and towards the south-east the Desert of Kerman. The north-western province (called *Azerbijan*), which lies between the Caspian Sea and the borders of Turkey, is an elevated mountain-region. High chains of mountains stretch through the northern, western, and south-western parts of the country, separating the interior plateaus from the plains which border on the Caspian Sea upon the one side, and the Persian Gulf and banks of the Tigris upon the other. On these three sides the ascent from the surrounding plains to the interior lies everywhere through a series of high passes or defiles, by means of which the

* Pronounced *Eeraun*. In Oriental names (as written in English characters), the *i* is generally sounded like *ee*, and the *u* like *oo*.

various mountain-terraces are successively reached. Many of these passes are elevated several thousand feet above the level of the sea, and are so closed in by the surrounding mountains as to form defences of great natural strength.

The principal rivers of Persia are the Kerkhah (380 miles), and the Kuraun (260 miles), both tributaries of the Euphrates, below the junction of the Tigris, — together with the Sefeed-rood, or White River (400 miles), which flows into the Caspian Sea. The little stream of the Bend-emir — celebrated in Persian song — flows into the salt lake of Bakhtegaun, in the southern part of the country. In the north-west is the large lake of Urumiyah, which lies at an elevation of 4300 feet above the sea, and the water of which exceeds even that of the Dead Sea in saltness.

The table-land of the interior exhibits great alternations of temperature — excessively hot and dry summers being succeeded by rigorously severe winters. The low plains bordering on the Caspian are hot, and the atmosphere humid; in the south and south-west, towards the Persian Gulf, the air is hot and dry, and the soil generally sterile. The table-land is destitute of trees, and the soil a hard clay, producing scarcely any vegetation but that of saline plants. But the valleys among the mountains, and indeed every spot where a perennial supply of water occurs, are exceedingly fertile.

Numerous small islands lie near the eastern shores of the Persian Gulf; the largest of these is *Kishm*, at the entrance of the gulf, adjacent to which is the small but more celebrated island of *Ormuz*, once the seat of a flourishing Portuguese settlement. Ormuz now belongs to the Sultan of Muscat.

(484.) *Inhabitants*.—The population of Persia is supposed to amount to between 9 and 10 millions. A large proportion of these (about $2\frac{1}{2}$ millions) consists of wandering tribes, called *Iliyats*, who are a distinct race from the more settled part of the population. The latter are most numerous in the north-western and some of the central provinces; Iliyat tribes occupy the high table-lands in the eastern part of the interior, and the mountainous tracts towards the western and north-eastern frontiers. The habits of the Iliyats resemble those of the Turkomauns of Asia Minor: some dwell throughout the year in tents, in winter keeping within the lower plains, and in summer seeking the cooler pasturage of the mountains;—others are partially dwellers in towns, but shift their abodes with the recurrence of the opposite seasons. Their wealth consists in their cattle and sheep; they breed horses and camels for sale, while their sheep supply them with food and clothing.

All the outskirts of Persia are infested by predatory

tribes, whose warlike habits are a constant source of injury to the more settled population ; on the west are the Koords, on the south-west the Arabs, towards the east the Afghauns, and on the north the Tartars. Jews are found in all the towns, and in the north-western province there are numerous Turks and Armenians.

(485.) *Industrial pursuits.*—In the interior of Iran agriculture is limited by the want of rivers, but in the provinces bordering on the Caspian, and those towards the western mountain-chains, fruits and various kinds of grain (including rice) are grown in great abundance. The mulberry is extensively grown in the north, and silk has always formed one of the staple products of the country. The cotton-plant is largely cultivated in the valley of the Sefeed-rood, in the north-west ; the vine comes to great perfection in the south-western provinces. Among the native productions of Persia, one of the most remarkable is the plant from which *assafetida* is obtained, and which also grows abundantly in the mountainous districts of Afghanistan. The poppy is cultivated all over the table-land, for the purpose of producing opium, and in many places saffron is raised.

The manufacturing industry of Persia is less now than formerly, but the people display great skill in the mechanical arts, and excel in the making of sabres, as well as in various silk and cotton fabrics—particularly embroidered silks,—together with shawls, fire-arms, leather, jewellery, perfumery, and earthenware. The women of the wandering Iliyat tribes weave the fabrics which pass under the name of Turkey carpets : the shawls made from the fine hair, or wool, of the Kerman goat are also highly valued.

The commerce is chiefly carried on by land, by means of caravans. The articles exported consist of native produce and manufactures, in exchange for Indian goods and European merchandise. Among the exports are dates and other dried fruits, carpets, shawls, silk (both raw and manufactured), horses, camels, skins, sal-ammoniac, assafetida, naphtha, amber, sulphur, rice, madder, gall-nuts, and saffron. The imports are sugar, indigo, spices, rhubarb and various drugs, with diamonds and other precious stones, from India ; and a variety of manufactured goods from Europe. The maritime traffic carried on by way of the Caspian Sea is entirely in the hands of Russia ; that of the Persian Gulf belongs partly to the English, and is partly in the possession of the Sultan of Muscat.

(486.) *Divisions.*—The provinces of Persia are Azerbaijan, in the north-west,—Gilan and Mazanderan, on the south shores of the Caspian,—Irak-Ajemi, in the centre and west,—Luristan and Khuzistan, in the south-west,—Fars, Laristan, and Kerman, in the south,—and Khorassan, in the east and north-east ; —together with a part of Kurdistan, lying in the west of Irak-Ajemi and on the frontier of Turkey. The province of Fars was the original seat of the Persian monarchy, but Irak is now the most important province, and contains Isfahān and Tehraun, the two principal cities.

Tehraun (or Teheran), the modern capital of Persia and the residence of the sovereign, stands in a gravelly plain, at an elevation of 4000 feet

above the sea ; the unhealthiness of its climate in summer causes the greater number of its inhabitants to leave it during that season, so that its population fluctuates between 10,000 and 60,000.—*Ispahann* (or *Isfahán*), the former capital, and still the seat of considerable manufactures and inland trade, lies in the southern part of the province, on the banks of the *Zeinda-rood*, a river which loses itself to the eastward in the sands of the desert. *Ispahann* has about 150,000 inhabitants, and lies at 4140 feet above the sea.—*Hamadan*, in the central part of the same province, at the foot of the high mountains of *Elwund*, and on the line of caravan traffic between Bagdad and Teheran, has about 50,000 inhabitants and considerable trade. *Hamadan* is the *Achmetha* of Scripture, and contains the reputed tomb of *Esther* and *Mordecai*.—*Kermanshah*, further to the westward, has 30,000 inhabitants, and possesses manufactures of carpets and swords.

Tabreez, in *Azerbijan*, situated 30 miles to the eastward of *Lake Urumiyah*, is a place of considerable trade, with about 50,000 inhabitants.—*Resht*, on an inlet of the *Caspian*, is the principal place in the province of *Gilan* ; *Amol* and *Balfroosh* are both in the province of *Mazanderan*. *Balfroosh* is the seat of considerable commerce.

Shiraz, the capital of *Fars*, situated in a valley at the height of 4300 feet above the sea, is now only a small town, though formerly of great wealth and celebrity. To the north-east of *Shiraz* are the ruins of *Persepolis*, now called *Istakhr*.—*Bushire* (in the same province), on the coast of the *Persian Gulf*, is the principal sea-port of *Persia*, though only containing 20,000 inhabitants. Its merchants, many of whom are *Armenians*, supply the greater part of *Persia* with *Indian* and *European* goods.—*Dizfool* (20,000 inhabitants) is the capital of *Khuzistan* ; *Shooster*, to the S. E., on the banks of the *Kuraun*, has 18,000 inhabitants. To the south-westward of *Dizfool* is the mound of *Sus* (or *Soos*), which represents the site of the ancient city of *Susa*, the “*Shushan*” of the book of *Daniel*.—The rising port of *Mohammerah* (24 miles E. S. E. of *Basrah*) stands on the left or eastern bank of the *Shatt-el-Arab*, which forms the frontier line between the *Persian* and *Turkish* dominions.

Lar (12,000 inhabitants), and *Kerman* (30,000), are the chief towns in the provinces of *Laristan* and *Kerman* : on the coast of the latter province, near the entrance of the *Persian Gulf*, is the seaport of *Gombroon*, which belongs to the *Sultan of Muscat*, but is now an insignificant place.—*Mushed*, the capital of *Khorassan*, like all the great towns of *Persia*, has decayed from its former importance, though not many years since it had 100,000 inhabitants.

(487.) The government of *Persia* is a despotic monarchy. The sovereign is styled the *shah*, and nominally possesses complete control over the lives and property of all his subjects ; but the chiefs of the warlike tribes of mountaineers and other unsettled parts of the population often acquire a power which renders them nearly independent of the royal influence. The people are almost universally followers of the *Mohammedan* religion ; they are not, however, believers in the orthodox creed of that faith, but members of the *Sheeite* sect, one of the two great divisions into which the *Mohammedan* world is divided. In *Azerbijan* are still found some descendants of the ancient fire-worshippers of *Persia*. As a nation the *Persians* are generally regarded as gay, lively, and animated ; but are prone to the vices of insincerity and falsehood.

SECTION IV. — AFGHANISTAN AND BELOOCHISTAN.

(488.) *Boundaries and Extent.*—The countries which lie between Persia and India consist of Afghanistan and Beloochistan, — the former of which is situated to the northward, while the latter extends along the shores of the Indian Ocean. These countries possess many features in common, and both of them belong to that elevated region of Western Asia which extends from the mountain-system of the Hindoo-Koosh to the neighbourhood of the plains bordering on the Tigris and Euphrates.

Afghanistan is bounded on the north by Turkestan, on the east by Hindoostan, on the south by Beloochistan, and on the west by Persia. Beloochistan is bounded on the north by Afghanistan, on the east by the province of Sinde, on the south by the Arabian Sea, and on the west by Persia. The total area of the two countries is nearly 450,000 square miles, of which Beloochistan occupies about a third part.

(489.) *Natural features, Climate, &c.*—The north-eastern part of Afghanistan is covered with high and rugged mountains, which belong to the system of the Hindoo-Koosh. Along the eastern frontier of the country extends the range of the Soleimaun Mountains, the highest of which — called Takht-i-Soleimaun (or the throne of Solomon) — is 12,000 feet in elevation. Farther to the south, the tableland of Beloochistan is terminated on the east by the range of the Hala-Mountains. Mountain-chains of considerable extent, but the elevation of which is unknown, stretch through the interior of Beloochistan in an east and west direction, parallel to the shores of the Indian Ocean.

Along the eastern foot of the Soleimaun range, between the base of the mountains and the banks of the river Indus, extends a long and narrow tract of country called the *Derajat* (or the Damaun), which belongs to the territory of the Punjaub, in the north-west of Hindoostan, and falls within the British frontier in that direction. The ascent from this lower tract bordering on the Indus to the table-lands of Afghanistan lies through rugged mountain-passes, at a considerable elevation above the sea. The two most important of these are the Khyber Pass, in the northern part of Afghanistan, and the Bolan Pass, in the north-east of Beloochistan, both of which are narrow defiles, bordered on either hand by high and precipitous rocks. These passes constitute the two great roads by which India is reached from the westward. The passes over the Hindoo-Koosh, into the plains of Turkestan, lie at a still greater elevation, some of them exceeding 12,000 feet.

A large portion both of Afghanistan and Beloochistan consists of alternate rocks, mountains, and deserts. The desert of *Seistan* (in the south-west of the former country) is of great extent, and resembles the worst parts of the Arabian deserts. But among the mountains there are many fertile valleys, in which cultivation thrives; and fruits, odoriferous plants, and wild flowers, abound. The climate of both countries exhibits great extremes, the cold being very severe in the higher regions, and the heat equally intense in the lower. Some of the open tracts towards the eastern portion of the table-land have a summer which equals in temperature that of the hottest parts of the globe, while in winter the snow lies on the ground for several months.

The principal river of Afghanistan is the *Caucool*, which flows into the Indus. The *Helmund* has a south-western course into the salt-lake, or morass, of Zurrah: this lake is very shallow, and great part of it covered with reeds and rushes. Many of the smaller rivers are lost in the sands of the interior.

Copper, iron, lead, and other metals, are believed to be abundant in the northern and eastern parts of Afghanistan, and gold is found in the streams which flow from the Hindoo-Koosh. Coal also occurs, and rock-salt is everywhere abundant.

(490.) *Inhabitants*.—The total population of the countries between Persia and India is probably from six to seven millions: the inhabitants of Afghanistan embrace about five millions of these.

The Afghauns constitute numerous distinct tribes, of whom the most important are the Dooraunees, the Berdoo-raunees, the Ghiljies, and the Caukers. These are subdivided into smaller clans or families, each under its own chieftain, and the habits of which in many respects resemble those of the ancient Highland clans of Scotland. The government is of a patriarchal kind, and only a nominal subjection is paid to the general ruler of the country. Besides the Afghauns proper, there are numerous other races, as the *Taujiks*, the *Hazarehs*, and the *Kuzzilbashes* (or Persian Toorks). The *Taujiks* dwell chiefly in the western parts of Afghanistan, have fixed habitations, and are peaceable and industrious. The Afghauns are in general rude, turbulent, and warlike; many of the tribes dwell principally in tents, though others lead a more settled life.

The people of Beloochistan are divided into two great branches, the *Beloochees* proper, and the *Brahooees*. Both races, but particularly the latter, are of pastoral habits, and dwell principally in rude tents, made of coarse cloth of camels' or goats' hair. They are, however, warlike, and addicted to habits of rapine and plunder.

(491.) *Industrial pursuits*.—Agriculture is not much pursued, and the greater part of the country is unsuited for it. Fruits and vegetables are abundant in the valleys, and wheat, barley, and other grains are grown; together with the sugar-cane and indigo in particular localities. In the province of Cutch-Gundava (the north-eastern part of Beloochistan), rice is extensively grown, and also the cotton plant. Both madder and tobacco are also raised in many parts of the country. Among the domestic animals of Afghanistan are the horse, camel, mule, ass, ox, sheep, and goat : the camel is the principal beast of burden, and the ox is used chiefly for the plough. Horses are reared in large numbers, and are exported to India.

The only manufactures are coarse fabrics of cotton and wool, with a few matchlocks and other fire-arms. The commerce consists chiefly in the interchange of the productions of Persia, India, and Turkestan. Among the exports (chiefly to India) are horses, furs, madder, saffron, assafetida, tobacco, almonds, nuts, and other fruits. To Persia and Turkestan are exported shawls, turbans, chintz, brocades, muslins, cotton cloths, silks, and other articles of Indian produce. Indigo, sugar, and spices, besides the fabrics above mentioned, are imported from India, — raw silk and corn, from Persia, — and many articles of European manufacture (as hardware, cutlery, &c.) from Russia, by way of Turkestan. Some of the Afghann merchants engaged in this carrying-trade are men of great wealth, and possess many thousand camels.

(492.) *Towns*.—The only national divisions in Afghanistan are those formed by the limits of the different tribes. The principal towns are Caubool, Herat, and Candahar—the two former towards the eastern and western limits of the country, the last-named in its central portion.

Caubool, the modern capital of the Afghann monarchy, stands on the banks of the Caubool river, in a plain which is elevated 6000 feet above the level of the sea. It has about 60,000 inhabitants, and flourishes chiefly through the extensive transit trade of which it is the centre. — *Ghiznee*, to the south-west, is now merely a ruined fortress, though once the capital of an extensive kingdom. — *Jellalabad*, a strong fortress on the south bank of the Caubool river, is nearly midway between Caubool and Peshawur. — *Candahar* (about 60,000 inhabitants), situated on the river Urghund, a tributary of the Helmund, is the centre of a great trade between India and Persia. — *Herat* (45,000 inhabitants), near the Persian frontier, is a great centre of caravan-traffic, and commands importance from its situation on the principal line of route by which Afghanistan is traversed from the westward.

The most considerable town of Beloochistan is *Kelat*, which stands on a plateau elevated 8000 feet above the sea. The province of Cutch-Gundava, to the eastward of the Hala Mountains and within the basin of the Indus, contains several small and thriving towns, and is the most populous portion of Beloochistan.

(493.) The whole of Afghanistan, with large portions of the neighbouring country, was formerly embraced in the Kingdom of Caubool. The heads of the different tribes, however, now exercise the only real sovereignty over their respective districts, and each of the principal towns is the seat of an independent principality.

The principal native ruler in Beloochistan is the Khan of Kelat ; but his power is of limited extent, and the more distant tribes are in reality

independent of his control. The people of both countries are followers of the Mohammedan religion, and the majority of them members of its orthodox (or Soonnite) sect ; but the Persians and some other of the tribes settled in Afghanistan are Sheeites, between whom and the Soonites the bitterest animosity prevails.

SECTION V. — INDIA.

(494.) *Boundaries and Extent.*—Hindoostan (or India proper) embraces the more western of the two great Indian peninsulas, and extends from the chain of the Himalaya Mountains on the north to Cape Comorin on the south : on the east side it is bounded by the Bay of Bengal and the valley of the Brahmapootra,—on the west by the Arabian Sea, and the chains of the Hala and Soleimaun Mountains. These ranges divide the low plain which borders on the western bank of the Indus from the high plateaus of Beloochistan and Afghanistan. The superficial area of Hindoostan is upwards of 1,200,000 English square miles (nearly one-third of that of Europe, and equal to more than ten times the magnitude of the whole British Islands), and the length of its coast line about 3600 miles.

(495.) *Natural Features, Climate, &c.*—Hindoostan consists of a vast plain in the north, and of high plateaus—bordered by mountain-chains—in the centre and south.

The Himalaya Mountains, which stretch along the northern frontier, rise suddenly and in a well-defined line above the plains of northern India ; the exterior range attaining a height which does not exceed 3000 feet. Immediately *below* this outer range of hills is a belt of dry forest-country, which is succeeded, still lower down, by a range of swamp, clothed with a thick growth of reeds and grasses. This swampy region, which is many miles in breadth, forms the tract known as the *Tarai* (or *Tariyani*) in Indian geography. The Tarai is extremely unhealthy, and is the abode of numerous wild animals.

Above the outer range of hills, the country rises rapidly, and soon attains an elevation of 7000 feet. Higher chains succeed, and the great mountain-region thence extends northward over a breadth of upwards of 200 miles. The line of the highest peaks is not coincident with the watershed of the chain, but lies in general to the southward of it, and the whole mountain-region is broken up into groups, separated by deep gorges, and penetrated by narrow transverse valleys.

The plain of Hindoostan embraces the extensive valleys of the Ganges and Indus, and the tract of the great Indian Desert (Arts. 456 and 457). The central parts of the peninsula include the plateau of the Deccan, with the less ex-

tensive plateaus of Malwa and Mysore. Along the western coast of Hindoostan is the high chain of the Ghauts, between which and the sea-shore there is only a narrow strip of lowland; on the east coast there are plains of wider extent, backed by the ranges of the eastern Ghauts, which are of less elevation, and also less continuous, than the mountains on the opposite side of India. The eastern side of the peninsula is distinguished as the *Coromandel* coast, and the western as the *Malabar* coast. The latter of these is indented and broken, and contains numerous good harbours; but the Coromandel coast is destitute of harbours, and is exposed through its whole length to a powerful surf, which renders it exceedingly difficult to effect a landing.

The two principal rivers of India are the Ganges and the Indus: besides these are the Brahmapootra, the Mahanuddy, the Godavery, the Krishna, the Cauvery, the Tapti, the Nerbudda, and numerous smaller streams (Art. 458). Many parts of the interior table-lands are, however, deficient in water, and possess an arid soil; and in the tract of the great Indian Desert there are only a few wells, scattered at wide intervals apart, and consisting chiefly of hollows in which the rain-water collects.

Hindoostan has few lakes, and none of any considerable magnitude. Near the east coast are the Chilka Lake, the Colair Lake, and Lake Pulicat: the first and last of these are shallow, and only separated from the sea by narrow ridges of sand; Lake Colair is formed by the overflowing of the rivers Krishna and Godavery, near the lower course of which it is situated. There are several salt lakes in the tract of the Indian Desert. Some small lakes of fresh water occur among the valleys of the Himalaya, of which those in the valley of Cashmere are the most celebrated, and are distinguished by great beauty.

On the west side of India, to the north and east of the Gulf of Cutch, is a singular tract called the *Runn of Cutch*. This embraces an extent of 6500 square miles, which is alternately (with the recurrence of the dry and the rainy seasons) a sandy desert plain, covered with a saline crust and interspersed with numerous shallow lakes,—and an extensive lake or marsh, the waters of which are connected with those of the Gulf of Cutch. When the waters retire, the ground is found covered with myriads of small fishes. During the dry season, the phenomenon of the *mirage* is often observed in this tract. Upon the banks, and in the small islands, of the Runn, the wild ass exists in great numbers; apes, porcupines, and vast flocks of wild birds, share with him the possession of this desolate region.

Among the native productions of India are the diamond and numerous other precious stones, including rubies, chrysolites, garnets, amethysts, cornelian, jasper, agate, opal, rock-crystal, and others. Diamonds are

found at Punnah, in the district of Bundelcund (between the river Jumna and the Vindhya Mountains); in the district of Golconda*, in central India; and at some places in the more southern part of the peninsula.

Both gold and silver are found in Mysore, and on parts of the Malabar coast. Iron is worked in the Carnatic, and likewise in Malabar; iron-ore abounds also in many parts of Northern India, among the high region of the Himalaya. Tin and copper have been found, as well as lead-ores, in various localities. Indeed, the mineral produce of India is of the most varied description, and embraces an immense number of metallic and other substances capable of being turned to valuable account. Excellent marbles and building-stones abound, together with numerous valuable clays and earthenware.

Coal occurs in great abundance in the north of India, especially in the neighbourhood of Calcutta, as well as in many other parts of the peninsula: the deposits of this mineral appear to form a great belt, which stretches from Cutch, on the west, to the extremity of Assam in the east, through more than 30° of longitude. The Ranegunge collieries, 108 miles to the N. W. of Calcutta, are of great value, and are extensively worked.

The climate of the greater part of India is strictly tropical, and the year is divided between the wet and the dry seasons. The highest temperature is experienced in the districts of the Lower Carnatic and the Circars, on the eastern side of the peninsula, and in the sandy plains of the great desert, on the north-west. Among the hills, and on the summit of the table-lands, a temperate climate is experienced (Art. 461). Rain is generally most abundant on the western side of the peninsula, along the range of the Malabar coast.

The *monsoons*, or periodical winds which prevail over the Indian Ocean, largely influence the climate of Hindoostan. These winds alternately blow from the north-east and the south-west quarters of the heavens, preserving the same direction for nearly six months of the year. On the Malabar coast, the south-west monsoon (which commences about the middle of April, and continues till August or September) is accompanied by violent rains, in consequence of the clouds brought with it being intercepted by the lofty range of the Ghats, while the table-lands of the interior have only a moderate degree of moisture. Along the eastern or Coromandel coast the south-west monsoon is, on the contrary, a dry wind, while the north-east monsoon (which begins in October) forms the commencement of the rainy season; but the rains are not nearly so violent here as on the western coast, and the droughts of summer are of longer continuance.

The vegetable productions of India are rich and splendid, and these—as well as the various orders of the animal kingdom—include most of the different forms of life already noticed as belonging to southern Asia in general (Arts. 463 and 464). The woods and jungles in every part of India teem with animal life. The apes and monkeys are innumerable, and the jackal is heard howling towards the close of the day. Tigers abound in the low tract of the Sunderbunds, at the mouth of the Ganges,

* The diamond mines of Golconda are now exhausted; but the celebrated diamond called the Koh-i-Noor (or Mountain of Light), in the possession of the British Crown, was found in this locality.

and also in other wooded districts. A large species of heron (which from its stately gait has acquired the general name of the *adjutant-bird*) frequents the towns of Bengal in considerable numbers. These birds feed partly on reptiles, and in part on the various kinds of garbage thrown into the streets, and which—but for them—would putrefy the air, so that they literally perform the office of scavengers.

(496.) *Inhabitants.* — Hindoostan contains upwards of 165 millions of inhabitants, of whom about six-sevenths are included under the general name of *Hindoos*. The remainder consist of various foreigners settled in India, among whom are Arabs, Armenians, Syrians, Parsees, Afghans, Turks, Abyssinians, Jews, Chinese, and Europeans of different countries. Of the latter, the British are the most numerous, but the total number of Europeans settled in India is not more than a few thousands.

The Hindoos, though commonly spoken of as one people, really consist of an immense number of families and races, among whom striking differences—both of appearance, language, and customs—prevail. In fact, the diversities found among the inhabitants of the different parts of this vast country are equally great with those observable among the different nations of Europe. In general, the Hindoos are of slender proportions, and of a graceful, agile figure; but, among the inhabitants of the mountainous districts, people of larger stature and more robust proportions are frequently met with. The complexion of the different Hindoo nations varies from a dark olive (sometimes almost as black as that of the negro) to a light, transparent brown or olive-tint, hardly deeper than that of the people who dwell around the shores of the Mediterranean. The face is oval, the forehead moderately large and high, the eyes and hair black, the eyebrows finely turned, and the nose and mouth generally of a European cast.

More than thirty different languages are spoken in India, nearly all of which are either wholly or partially derived from the *Sanscrit*,—the ancient classical language of the country, and that in which its sacred books are written. Though no longer a spoken language, the Sanscrit is still cultivated by the learned classes throughout India: it possesses remarkable affinities with most of the languages of Europe and Western Asia, nearly all of which are included with it in the same great class of Indo-European languages (Art. 81).

Of the modern languages of India, that called the *Hindoostanee*, or *Oordoo*, is the most extensively prevalent, and is spoken by persons of different nations in all the larger towns and villages from Madras to Bombay, and from the Ganges to Cape Comorin. It is also adopted by the British Government as the general medium of communication with the natives, and is the language of the official documents and courts of justice. The Hindoostanee, however, is not a pure Sanscrit tongue, but has resulted from the mixture of Persic and Arabic words and idioms with the prevailing native dialect of Northern India.

Next in extent of diffusion to the Hindoostanee is the *Bengalee* dialect, which prevails in the regions watered by the lower course of the Ganges,

and is the language of more than 30,000,000 of people. Among other languages diffused over wide spaces in India are the Gujerattee, the Mahratta, the Telinga, the Gondee, the Karnata, the Tamul, and the Singalese (the last, in the island of Ceylon). The English language is, however, everywhere making rapid progress, and is now taught in all the schools established under the direction of the British Government.

Nine-tenths of the people of Hindoostan are followers of the *Brahminical* religion, which consists of a variety of gross superstitions, and embraces the worship of a great number of idols—most of them regarded as representatives of the same supposed spiritual power under different names. Brahma, Vishnu, and Seva, are the three personages of the Hindoo trinity, and these (especially the second and third) are the great objects of worship ; but the variety of forms in which the Brahmins or priests present them to their deluded followers is almost infinite.

There are also in all parts of India numerous followers of the Moham-medan faith, besides many native sects of less general importance. Of late years strenuous efforts have been made to convert the natives to Christianity, and the whole peninsula is now divided into three Protestant dioceses (those of Calcutta, Bombay, and Madras), each under the spiritual direction of a bishop of the English Colonial Church. The Scriptures have been translated into most of the principal languages of India, and numerous missionary stations are maintained in different parts of the country.

Of the social institutions of the Hindoos, the most remarkable is the division into different *castes*, which is of universal prevalence throughout the country. Originally the whole of the people appear to have constituted four great castes—consisting of the *priests* (or Brahmins), the *soldiers* (Shatryas), the *merchants* and *husbandmen* (Vaisyas), and the *artisans* or *labourers* (Sudras). But this division has long ceased to have any practical existence, and is now purely theoretical. There prevail, however, an immense number of different castes or classes, the members of any one of which only intermarry among themselves, and in most cases abstain from associating in any way with those of a different caste. Under European influence, however, many of the distinctions of caste have become weakened, and in some cases altogether disregarded, and members of numerous different castes (including even the sacred one of the Brahmins) are found in the ranks of the Indian army.

The Hindoos live *chiefly* upon vegetable food, and rice forms a large ingredient in the diet of the poorer classes. They do not, however, abstain altogether from the use of animal food, excepting in regard to the flesh of the cow, which is regarded as a sacred animal. Mutton and other kinds of animal food, including fish—in fact, everything excepting beef and fowls—are eaten readily by all classes.

(497.) *Industrial Pursuits.*—Agriculture forms the occupation of the vast majority of the people of India, but it is conducted in the rudest and most imperfect manner, and frequently with the most defective implements. The natural fertility of the soil, however, generally secures a sufficient supply of food, and leaves even a considerable surplus for exportation : still, on any occasion of unusual drought, famine prevails to a great extent. The overflow of the rivers is the great means of irrigating the land, and the waters are preserved by the aid of tanks or arti-

ficial ponds, and wells, which are numerous formed in all the cultivated districts. Among the objects of cultivation, one of the most important is rice. Indigo and opium are also very largely grown: the cotton plant, sugar-cane, mulberry, and coffee-tree, are generally diffused, and efforts are making to extend the growth of cotton in India.

The native ox and buffalo are used in India for the plough,—the elephant, camel, horse, and ass, as beasts of burthen,—and the elephant and horse also for purposes of pleasure.

The most important among the native manufactures are fine cotton and silk fabrics, and shawls; of the latter, those made from the hair of the Cashmere goat are the most highly esteemed. The fine muslins and calicoes of Dacca and other places in Bengal formerly constituted an important branch of national industry, but have been in great measure superseded by the cheaper fabrics of Britain.

Still, however, the productions of Indian manufacturing skill are varied and magnificent. Silk fabrics, of every variety of pattern and colour,—shawls, carpets, turbans, scarfs, handkerchiefs, and numerous other articles worked in the most minute and elaborate designs, bear testimony to the skill and taste of the native artizan. To these may be added a variety of works in leather (including embroidered saddle cloths, head-trappings, and other accoutrements), tapestry of various kinds, jewellery, hardware goods, glass and pottery, furniture, and upholstery (embracing couches, chairs, tea-caddies, work-boxes, and other articles, many of which display extreme beauty), with paper, stationery, ornaments of different descriptions, and numerous objects of minor importance. A great number of these productions of Indian skill are, indeed, rather showy and magnificent than useful, and serve to illustrate the splendour with which Oriental potentates have always delighted to invest their thrones and persons.

The foreign commerce of India is very considerable, and is capable of further development to a vast extent. The direct trade carried on between Great Britain and India has increased greatly within recent years, both in the items of export and import. The articles supplied by India to Britain (taken in the order of their relative importance) are, raw cotton, indigo, sugar, rice, oil-seeds (chiefly linseed and rape), hides, hemp and jute, timber (teak), and wool. Of articles imported from Britain, the principal are, cotton manufactures and yarn, iron and steel (both wrought and unwrought), copper and woollen manufactures.

The trade of Britain with India is now second only in amount to that carried on with the United States. Indeed, the exports from Britain to India nearly equal in value those to the United States. The total value of the British trade with India has trebled itself since 1815, and has undergone a vast development within the last quarter of a century.

Next to Britain, China commands the largest share of the Indian trade—limited, however, to one article, opium, which is consumed by the Chinese to a vast extent. Commercial intercourse is also maintained with the islands of the East Indian Archipelago, Arabia, and the countries on the Persian Gulf; as well as (by means of caravans) with Afghanistan, Persia, Turkestan, and the countries to the northward of the Himalaya.

The means of internal communication are very defective, and the mountain-chains of the western coast separate the maritime districts from the interior by barriers which art has only within a recent period

attempted to overcome. The roads throughout India are mere tracks, scarcely passable by wheeled carriages, and such conveyances as stage-coaches, or public vehicles of any kind, hardly have any existence. Vast tracts of country are still covered with dense forest or jungle, while others consist of mountainous districts which are yet unsurveyed and even unexplored. But of late years serious attention has been bestowed on the means of remedying this defect, and good roads have been formed in the neighbourhood of Calcutta and other large towns. The river-navigation, by means of steamers of light draught, has also been greatly extended; and many extensive lines of railway are in process of construction. Above a thousand miles of railway are, indeed, already completed and in operation.

(498.) *National divisions.*—Hindoostan is divided into—1st, THE BRITISH TERRITORIES, or those parts which are directly under British rule,—2nd, The Native States which are *tributary* to Great Britain, or (as they are generally called) the PROTECTED STATES,—and 3rd, The INDEPENDENT STATES. The British territories now embrace upwards of 700,000 square miles, or nearly three-fifths of the whole extent of the peninsula;—the Protected States about 400,000 square miles;—while the Independent States consist only of Nepaul, Bootan, and Cashmere, which have together an area of about 98,000 square miles. Great Britain is therefore the ruling power in India, and really exercises sway over the entire country. There are some small settlements belonging to the French and the Portuguese, but they are of little importance.

1. BRITISH TERRITORIES.

(499.) The political government of British India—until recently in the hands of the East India Company—was in 1858 transferred to the Crown. This change was consequent upon the wide-spread insurrection on the part of the native army which had broken out in the Bengal Presidency during the previous year, and which tasked the resources of British power in its suppression. The political functions of the East India Company have accordingly ceased, and the direct sovereignty of the English Crown is exercised through the medium of a Council for Indian Affairs, and a Governor-General, appointed by the Crown.

British India is divided into three *presidencies*,—those of Bengal, Bombay, and Madras; the Governor-General is also the governor of the Bengal Presidency, which is the most extensive of the three, and contains Calcutta, the seat of government.

(500.) THE BENGAL PRESIDENCY embraces most of the north-eastern, northern, and north-western parts of India, including nearly the entire valley of the Ganges, to which has been added the greater part of the Punjaub, or district watered by the five tributaries of the Indus (Art. 458). Besides these large tracts, it also includes Assam and various territories on the east side of the Bay of Bengal, situated beyond the limits of Hindoostan. The provinces on the lower Ganges are the richest, most fertile, and most populous portion of India.

Provinces and Towns.—The province of BENGAL (or Bengal proper) extends over the lower course of the Ganges, including the extensive delta formed at its mouth. It is everywhere intersected by broad rivers,

arms of the Ganges and the Brahmapootra, and these annually inundate the fields to an immense distance from their banks. Rice forms here the chief object of cultivation, but wheat, barley, and maize, are also grown. Sugar, indigo, tobacco, and cotton, are also important productions; the mulberry-tree is extensively reared for the purpose of the silk-worm, and the poppy for the manufacture of opium. The chief towns of Bengal are Calcutta, Dacca, and Moorshedabad.

Calcutta (413,000 inhabitants), the capital of British India and the seat of an immense trade, is situated on the east bank of the Hooghly river, about 100 miles from the sea. The parts occupied by European residents consist of handsome detached houses, but in the native portion of the town the streets (or rather lanes), are narrow, crowded, and dirty. An immense number of natives who dwell in the suburbs pour daily into the town, and add to the noise and excitement of which it is constantly the scene. The markets are extensive, and are supplied with abundance of fruits and vegetables, besides game, meat, and fish. Fort William, the citadel of Calcutta, is of vast extent.

A short distance above Calcutta, on the opposite bank of the Hooghly, is *Serampore* (13,000 inhabitants), the seat of the Baptist Missionary press, from which numerous translations of the Scriptures have been issued. Serampore was formerly a Danish settlement, but was purchased by the British in 1845.—A few miles higher up the river is *Chandernagore*, a small French settlement.

Further to the northward, near the east bank of the upper Hooghly, is the small town of *Plassy*, the seat of Lord Clive's famous victory in 1757. Still further north, at a distance of 120 miles from Calcutta, is *Moorshedabad* (147,000 inhabitants), a large native town, with considerable manufactures of silk, carpets, embroidery, &c.—*Dacca* (70,000 inhabitants), situated 150 miles to the N.E. of Calcutta, on an arm of the Brahmapootra, was the principal seat of the native manufacture of muslins and light cotton fabrics, but is greatly decayed: large portions of it are now entirely in ruin.—In the south-east part of the province of Bengal, lying beyond the Brahmapootra, is the hilly district of *Chittagong*, the capital of which—*Islamabad*, or *Chittagong*—has some trade, exporting rice and other agricultural produce. But it has declined of late years.

The province of **BAHAR** lies to the westward of Bengal, and extends over both banks of the Ganges, embracing in the south a hilly district which borders on the plateau-region of Central India. Opium (from the poppy) is abundantly produced in this province; indigo, wheat, barley, sugar, and rice, of excellent quality, with the betel-nut, are also largely grown. The essence called attar of roses is extensively prepared here. A large quantity of saltpetre is manufactured in Bahar, from the refuse of decayed animal and vegetable matter, combined with various earths in which nitre, with sulphate and muriate of soda, abound. The manufacture of cotton-cloths is general throughout the province.

The chief towns are Patna, Gaya, and Bahar. *Patna*, the largest town in the province, lies on the south bank of the Ganges, and has about 300,000 inhabitants.—The town of *Bahar*, to the southward of the river, is now of little importance.—*Gaya* (60 miles s. by w. of Patna)

is a celebrated place of native pilgrimage, and is believed to have been the birth-place of Boodh — the founder of the Buddhist religion.

A large portion of the province of ORISSA, to the south-westward of Bengal, is included within the Bengal Presidency, the boundary of which extends along the coast as far as the banks of the Chilka Lake. The district of Cuttack, which forms part of this province, lies along the lower course of the Mahanuddy, and includes the mouths of that river. Immediately along the coast, the country is low, destitute of verdure, and subject to inundations of the sea; but further inland is a highly fertile tract, and towards the interior it rises into hills which abound in forest trees, many of them valuable for purposes of cabinet-work, or for making dyes and varnishes. The cultivated parts of the province produce rice, sugar, spices, and numerous drugs: salt is obtained on the coast.

The chief town is *Cuttack* (40,000 inhabitants), on a branch of the Mahanuddy. — *Pooree* or *Juggernaut*, on the coast to the south, at the mouth of one of the arms of the river, has 30,000 inhabitants, and derives celebrity from its containing the great temple of Juggernaut, where many of the most superstitious rites of the Hindoos are practised at the annual festivals held in honour of the idol, when crowds of pilgrims assemble on the occasion. Pooree is resorted to by Europeans on account of its healthy climate and cooling sea-breeze. — To the N. E. of Cuttack is *Balasore*, a flourishing port, situate a short distance from the coast, on the banks of a river navigable for small vessels.

The more inland parts of Orissa embrace many wild territories, some of them mountainous, and others covered with jungle, and thinly inhabited.

Bengal, Bahar, and the portion of Orissa above described, constitute the *lower* provinces of the Bengal Presidency.

(501.) **BENARES**, the next province in ascending the valley of the Ganges, lies at a somewhat greater elevation, and has a temperate climate for most part of the year. Large quantities of indigo and opium are produced, besides barley, wheat, flax, and sugar. There are extensive manufactures of muslins, gauzes, and brocades, in many of the towns, besides considerable trade by means of the rivers. The town of *Benares* (200,000 inhabitants), the capital of the province, lies on the N. bank of the Ganges, and is a crowded seat of native industry, and also superstition. It is regarded by the Hindoos as one of their most sacred cities, and its temples are frequented by numerous priests and crowded with swarms of devotees and pilgrims. *Mirzapore* (with 80,000 inhabitants) is some distance above Benares, and on the opposite bank of the Ganges.

ALLAHABAD, a large province to the westward of Benares, includes the country watered by the lower course of the Jumna above its junction with the Ganges, as well as the districts on either side of the latter river. It is one of the most populous and productive provinces of British India: wheat, cotton, and indigo, are the principal crops; sugar, opium, and saltpetre, are also produced. In the south-west part of the province, towards the Vindhya Mountains, is the hilly district of *Bundelcund*, formerly noted for its diamond mines (Art. 495).

The most considerable towns in the province are Allahabad and

Cawnpore.—*Allahabad* (65,000 inhabitants) is situated at the junction of the Ganges and Jumna ; it is hence regarded by the natives as a sacred spot, and is the resort of crowds of pilgrims who come to bathe in the united stream.—*Cawnpore* (108,000 inhabitants), on the west bank of the upper Ganges, is one of the principal military stations in India, and a large force of British troops is always cantoned there.—*Futtehpoore*, with 15,000 inhabitants, is a thriving town, situated about mid-way between Allahabad and Cawnpore.

The province of AGRA, to the west and north-west of Allaha-bad, includes the southern part of the *Doab* (or country between the streams of the Ganges and Jumna), as well as an extensive tract to the westward of the Jumna, and watered by its tributary, the Chumbul river. The climate is temperate, and the soil well adapted to the growth of indigo (which is very extensively produced), as well as tobacco, cotton, and sugar, together with wheat and barley. Cotton and sugar are raised in the lower parts of the province.

The chief towns in this part of India are *Agra* (76,000 inhabitants), on the right or west bank of the Jumna, which is the seat of considerable inland trade,—and *Muttra*, an ancient Hindoo city, higher up the same river.—Six miles north of Agra is the large village of *Secundra*, which contains the splendid tomb of the emperor Akhbar, the greatest of the Mogul sovereigns.

The town of *Bhurtpore*, situated 34 miles to the N. W. of Agra, is the capital of a small state, under the government of a native rajah. It endured two celebrated sieges by the British army (in 1805 and 1826), in the former of which it finally capitulated, and in the latter was taken by storm. But the fortifications are now demolished.

Ajmere (220 miles to the S. W. of Agra, and in the province of Rajpootana), is the capital of a detached district of the same name, which forms part of the British territory. The town has 25,000 inhabitants, and is one of the most flourishing places in Northern India, and the residence of numerous wealthy merchants.

DELHI, a large province to the northward of Agra, embraces the upper part of the country between the Ganges and the Jumna, as well as an extensive tract to the west of the latter river, extending towards the borders of the Great Desert and the country watered by the Sutlej. Great part of the soil is arid and sandy, and the western portion of the province suffers from want of water ; but many canals have been made from the Jumna for the purposes of irrigation. The tract lying to the westward of Jumna produces wheat, barley, and other grains, and in the eastern part of the province sugar and cotton are grown.

The present city of *Delhi* (160,000 inhabitants), the capital of the province, lies on the right bank of the Jumna, though extensive remains of the more ancient city are found on the opposite bank of the river. Delhi was the capital of the Mogul sovereignty, and contains numerous mosques, palaces, and other splendid works. It has some manufactures of cotton-cloths, shawls, and jewellery, with considerable trade.—*Paniput*, a small town to the northward of Delhi (near the W. bank of the Jumna), is famous in Indian history as the scene of two great battles—the first, in 1545, between the native sovereign of Delhi and the founder of the Mogul Empire—and the other, in 1761, between the King of

Caubool and the Mahratta chieftains.—*Meerut*, an ancient town to the north-eastward of Delhi, with 29,000 inhabitants, is an important military station, and the chief place in the district of *MEERUT*.—*Hardwar*, a small town on the right bank of the Ganges, at the place where it issues from the mountains, is the seat of a great annual fair, to which myriads of pilgrims resort for the purpose of bathing in the waters of the sacred stream. *Roorkee*, to the s. w. of Hardwar, is the seat of an engineering college, established for the education of native youth.

The province of *ROHILCUND*, to the eastward of the Upper Ganges, was formerly included in Delhi. Its chief town is *Bareilly* (90,000 inhabitants), which is the seat of one of the principal provincial courts of justice, and the judicial capital of the upper provinces. The inhabitants are noted for their cutlery, brass-work, carpets, embroidery, and cabinet-work.

The mountainous territory of *KUMAON*, which extends from the summits of the Himalaya chain into the plains of northern Delhi and Rohilcund, is included in the government of the Bengal Presidency. In the less rugged parts of the province, wheat, rice, and hemp, are grown. The tea-plant is cultivated on the sides of the hills. The chief town is *Almora*, which stands on the ridge of a mountain at a height of more than 5000 feet above the sea.

The provinces of Benares, Allahabad, Agra, Delhi, Meerut, and Rohilcund, are included under the general name of the *Upper* or *North-western Provinces*, which are presided over by a Lieutenant-Governor, resident at Agra.

(502.) Besides the above provinces, the Bengal Presidency now includes the extensive territory of the Punjaub, in the north-western part of India.

The *PUNJAUB* is an immense region watered by the five tributaries of the Indus (Art. 458), and embracing an area of 78,000 square miles; it formerly constituted the Kingdom of Lahore, but was annexed to the British dominions in 1849. Previous to this period, the ruling people in Lahore were the *Sikhs*, a warlike race, who, however, only form a small proportion of the total population of the territory. The Punjaub is less generally fertile than the provinces of the Ganges, and many portions of it consist of a hard clayey soil; but towards the immediate banks of the rivers the land is more productive, and many of the elevated valleys in its northern portion possess the highest degree of fertility. Salt occurs in the greatest abundance in the north-western part of the Punjaub, along a range of hills (known as the Salt Range) which extends from the west bank of the Jeloum to the further side of the river Indus.

The principal towns in the Punjaub are Lahore, Amritsir, and Mooltaun. *Lahore* (100,000 inhabitants), formerly the capital of the Sikh monarchy, stands on the left or west bank of the Ravee, and on the chief line of road from India to Afghanistan and Persia.—*Amritsir* or *Umritsir* (90,000 inhabitants) lies 40 miles to the n. by n. of Lahore, and possesses some manufactures of shawls and silks, besides considerable transit trade with other parts of India. It is regarded by the Sikhs as a sacred city, but the majority of the population are either Hindoos or Mohammedans.

Mooltaun (80,000 inhabitants) is an ancient and considerable city on the left bank of the Chenab, about 120 miles above its junction with the Indus, and possesses some silk manufactures. Mooltaun was formerly a fortress of great strength, but was besieged and taken by the British army in 1849.

Upon the south side of the Sutlej, (a short distance from Lahore, and near the frontier of the Punjab,) are the two important military posts of *Ferozepore* and *Ludhiana*; in the neighbourhood of these places were fought (in the winter of 1845–6) the important battles of Moodkee, Ferozeshah, Aliwal, and Sobraon, by which the British became masters of the territory above described. — *Gujerat*, the scene of a decisive victory gained by the British troops in the later Sikh campaign of 1848–9, is a small town situated to the northward of Lahore, and beyond the north bank of the Chenab.

The mountain-district of **SIMLA**, a favourite place of resort for sanitary purposes, nearly adjoins the easternmost portion of the Punjab territory, to which it is politically attached. The town of *Simla* lies a few miles to the eastward of the upper Sutlej, in the midst of a beautiful and varied tract of country, belonging to the lower slopes of the Himalaya Mountains, and at an elevation of 7800 feet above the sea. A temperate and invigorating atmosphere is experienced in this attractive locality. The population of Simla fluctuates, with the seasons, between 2000 and more than ten times that number.

The country on the western bank of the Indus, as far as the range of the Soleimann Mountains, now forms part of the British territory. The city of *Peshawur* (50,000 inhabitants), within the limits of the mountain region to the northward of this tract, is on the banks of a small tributary of the Cabool river. The road thence to Cabool lies through the Khyber pass (Art. 489).

The Presidency of Bengal also embraces the provinces of Assam, Aracan, Pegu, Tenasserim, and other territories on the east side of the Bay of Bengal. These lie beyond the limits of India proper, and are described in the succeeding section.

(503.) **OUDE**, which embraces a fertile territory of 24,000 square miles, with a population of nearly three millions, formed, prior to 1856, a native kingdom, in alliance with Britain. The province is situated within the valley of the Ganges (above Allahabad), lying for the most part between the main stream of the Ganges and the course of its tributary the Gogra. The mountainous territory of Nepaul bounds Oude to the northward. The surface of Oude is generally level, the soil rich, and the province produces abundance of rice and other grain, with sugar, indigo, and opium.

Lucknow, the chief city of Oude, stands on the banks of the river Goomtee (one of the affluents of the Ganges), and has 300,000 inhabitants. — *Fyzabad*, the former capital, lying on the river Gogra, is a large and populous place, with 100,000 inhabitants, but is said to be fast declining; in its neighbourhood, a few miles to the eastward, are the ruins of the ancient city of Oude, regarded as sacred in the eyes of the natives.

(504.) The large territory of **NAGPORE**, comprising an area of 76,000 square miles and a population of between four and five millions, was an-

nexed to the British dominions in 1854, previous to which it had constituted a native State, under the rule of a rajah. The Nagpore territory, which is entirely inland, embraces a large portion of the highland of the Deccan. Nearly the whole tract is elevated upwards of 1000 feet above the sea, and many districts reach more than double that altitude. The upper course of the river Mahanuddy waters the more eastward division of the province; various tributaries of the Godavery flow through its western division. The south-eastern portion—towards Orissa—is a wooded and hilly tract, hitherto unexplored.

Nagpore contains gold, and also iron, lead, manganese, and other mineral ores. Diamond-mines were formerly worked (at Wyraghur, in the western part of the territory), but are found to be unremunerative. The cultivated parts of the province yield abundant crops of wheat and other grains—including rice, where sufficient means of irrigation are at hand.

The Nagpore territory includes the larger part of the native province of Berar, together with part of Gundwana—the latter forming its northern, the former its western and central, portions. The principal city in the territory is *Nagpore*, with 110,000 inhabitants.

(505.) The **PRESIDENCY OF BOMBAY** lies wholly on the western side of India, embracing the coast of the peninsula from the 16th parallel to the head of the Gulf of Cambay, together with part of the interior table-lands, and the large province of Sinde, lying along the lower course of the Indus. It is the smallest of the three presidencies, but includes, with Sinde, an area of more than 120,000 square miles, and a population of ten and a half millions.

Exclusive of Sinde, the provinces embraced within the Bombay Presidency are—part of Guzerat, lying round the head of the Gulf of Cambay;—part of Khandeish, extending along the course of the Tapti and the lower portion of the Nerbudda rivers,—the districts of the North and South Concan, which lie along the coast, between the Ghauts and the sea; together with the districts of Ahmednuggur and Poonah, and the province of Sattara, all comprising parts of the interior table-land, to the eastward of the Ghauts. The inland portions of the presidency enjoy a temperate and healthy atmosphere; the coast-region is moist, and the climate of Bombay and its immediate vicinity is more unhealthy to Europeans than that of any other part of India.

Among the principal vegetable productions of the coast districts are cotton, rice, dates, and cocoa-nuts. The cotton grown here is esteemed superior in quality to that raised in the other parts of the peninsula. Sugar and indigo (the latter of very fine quality) are grown in the province of Khandeish. The mulberry tree is also cultivated largely in some parts, and the silk-manufacture is pursued in some of the towns, but not to any considerable extent. This part of India is the principal seat of the people called *Parsees*, who are of Persian origin, and the descendants of the ancient fire-worshippers of that country. The vastly greater number of the Parsees (who do not, in all, exceed 150,000) are settled in Bombay, where they constitute the principal merchants and ship-owners, and are among the wealthiest classes of the community.

(506.) The city of *Bombay* (500,000 inhabitants), the capital of the presidency, lies near the southern extremity of an island of the same name,

which is connected by an artificial causeway with the larger island of Salsette. The harbour of Bombay is one of the largest and safest in India, and the town possesses extensive docks, besides bazaars and warehouses of great magnitude. Its trade is very extensive, and is second only to that of Calcutta, a large portion of it being carried on with China. The small island of Elephanta, to the eastward of Bombay, is celebrated for its ancient cave-temples, and on the island of Salsette are the caves of Kenneri, of similar origin.

Surat (135,000 inhabitants), a large town to the northward of Bombay, lies near the mouth of the river Tapti. It was formerly a place of great commercial importance, but the greater part of its trade has been diverted to Bombay, and it is now in a declining state.—*Baroche* (30,000 inhabitants), near the mouth of the Nerbudda, has considerable trade with Bombay and Surat in the export of cotton and grain. It is a place of great antiquity, and, under the name of *Barygaza*, was an important commercial emporium in Greek and Roman times.—*Ahmedabad* (130,000 inhabitants), an inland town, and formerly a place of great importance, lies at some distance to the northward of the gulf of Cambay.

Poonah (75,000 inhabitants) is a large and important town lying to the eastward of the Ghauts, upon a plain elevated 2000 feet above the sea, and presenting in its healthy and temperate climate a delightful contrast to the heated atmosphere of the coast. A fine road over the Ghauts connects Poonah with the coast adjacent to Bombay. The country to the northward and eastward of Poonah is remarkable for the numerous hill-forts which it contains, and many of which present striking specimens of natural strength—the fort occupying the flat summit of a hill which rises from the plain by a steep escarpment on every side. Among these are the fortresses of Trimbuck, Malligawm Unkie, and many others celebrated in the annals of Indian warfare.

Ahmednuggur, a town of some importance, with 20,000 inhabitants, is 70 miles to the N. E. of Poonah. — *Sattara*, a strong fortress and military position on the river Krishna (a short distance below its source), is 55 miles to the S. of Poonah. *Beejapore* (125 miles S. E. of Sattara), exhibits the extensive remains of an ancient city—appropriately designated “the Palmyra of the Deccan,”—a vast mass of ruins, embracing decayed tombs, temples, palaces, and mosques.

(507.) The large province of **SINDE** embraces the country upon either side of the lower course of the Indus, from a point a little below the junction of the Chenaub down to the mouth of the river. On the west it is limited by the Hala Mountains and the frontier of Beloochistan; on the east it stretches far into the Indian desert, the portion of which lying within its limits is distinguished as the *Thurr*, or Little Desert. Sinde was under the government of some native chieftains, called *Ameers*, until 1843, when it was conquered by the British, — the decisive battle of Meeanee gained over the Ameers in that year having completely annihilated their power.

Sinde has an area of 58,000 square miles, but about half of this extent belongs to the desert. Of the remainder, only those parts which are watered by the Indus and its numerous branches are capable of cultivation, and the province owes its productiveness entirely to that river, the annual inundations of which fertilise the fields. The delta of the Indus has a rich soil, but is poorly cultivated: the general aspect of the

country is flat and uninteresting. Rice is the staple production of Sinde, but wheat, barley, and other grains, are raised, as well as indigo, sugar, tobacco, and hemp.

Hyderabad (24,000 inhabitants), the chief town of the province, lies on the east bank of the Indus, about 120 miles above the sea.—*Meeanee*, the scene of Napier's famous victory, is six miles to the northward of Hyderabad.—*Tattah* (18,000 inhabitants), at the head of the delta, was the ancient capital, and has some manufactures of silk and cotton-cloths.—*Kurachee*, on the coast to the westward of the delta, is the principal sea-port of Sinde, and has considerable trade.—*Shikarpore* (30,000 inhabitants), in the northern part of the province, to the westward of the Indus, is a flourishing inland town.

(508.) The territories embraced within the **PRESIDENCY OF MADRAS** extend entirely across the southern part of the peninsula, embracing all the eastern coast from the shores of the Chilka Lake southward to Cape Comorin, and a considerable tract of the western coast. The provinces comprised within its limits are the Northern Circars, which extend along the Coromandel coast from the Chilka Lake to the south side of the river Krishna,—the Carnatic, a large territory which stretches from the eastern coast over a considerable tract of the interior,—Coimbatore, a small inland territory in the western part of the Carnatic,—with Malabar and Canara, both of which lie upon the western coast, between the Ghauts and the shores of the Indian Ocean. The total area of the presidency is nearly 145,000 square miles.

The tract called the **CIRCARS** is in general hilly, and has the chain of the Eastern Ghauts upon its inland frontier; but a narrow plain extends along the coast. The soil is generally fertile, and sugar, cotton, and tobacco, are cultivated, besides a considerable quantity of grain. The town of *Masulipatam* (with 28,000 inhabitants), on the coast to the eastward of the mouth of the Krishna, possesses considerable trade.—*Coringa*, further to the N. E. (at the mouth of the Godavery), is also a sea-port of consequence, and its bay affords the only shelter for ships along the whole eastern coast of the peninsula.

The large province of the **CARNATIC**, which embraces a great part of Southern India, is divided into two parts, distinguished as the *Balahaut* and the *Payan-ghaut* (that is, the parts above and below the line of the Eastern Ghauts), or the *Upper* and *Lower* Carnatic. The climate of the Lower Carnatic is intensely hot, and the soil often arid; the agricultural produce is not, on the whole, so abundant as in most other parts of India, but good crops of rice are obtained wherever a sufficient supply of moisture can be found, especially in the tract watered by the lower course of the Cauvery river. The upper Carnatic forms a plateau of 3000 feet in elevation, and has a temperate climate; rice, sesamum, and other descriptions of grain, are cultivated, with indigo and cotton in some situations, and also sugar to a limited extent. The principal towns in the Carnatic are Madras, Arcot, Vellore, Pondicherry, Tranquebar, Trichinopoly, and Madura.

Madras (700,000 inhabitants), the capital of the presidency, lies on the Coromandel coast of India, in an unsheltered situation, and is totally destitute of any harbour. Ships of large size, however, anchor in the roadstead in front of the town, and land passengers and goods by means

of light boats, constructed so as to live through the tremendous surf which prevails along this coast. Madras is defended by Fort St. George; it possesses extensive warehouses, bazaars, and other public buildings, and is the seat of a very considerable trade.

Arcot (53,000 inhabitants), a large inland town on the banks of the river Palar, to the s. w. of Madras, was formerly the Mohammedan capital of the Carnatic.— *Tanjore* (80,000 inhabitants), situated on a branch of the Cauvery, is one of the most celebrated cities of Southern India, and the rival of Benares in learning, splendour, and antiquity; it contains a magnificent pagoda, one of the finest in India.— *Trichinopoly*, higher up the Cauvery, is a fortified town with 30,000 inhabitants. The sea-port of *Tranquebar*, situated on the coast near the mouth of the Cauvery, was formerly a Danish possession, but was purchased in 1845 (along with Serampore) by the British Government. It has 23,000 inhabitants, and carries on considerable trade.

Madura, an interior town, in the southern part of the Carnatic, with 20,000 inhabitants, is the capital of an extensive district. The district of Tinnevely is still further south, reaching to Cape Comorin, at the southern extremity of the peninsula. Tinnevely contains among its inhabitants a large proportion of native christians, converted by means of the missionary agency which is extensively employed there. The town of *Tinnevely*, its capital, has 20,000 inhabitants.

COIMBATORE is a small inland province, lying between the Carnatic and the chain of the Western Ghats, and at an elevation which varies from 500 to 3000 feet above the sea. On its northern frontier is the wild and hilly tract of the *Neilgherries*, or *Blue Mountains*, upwards of 5000 feet in altitude, and amongst which a delightfully cool and healthy climate is found. Both tobacco and cotton, as well as rice, are grown in the lower parts of the province. *Coimbatore* is also the name of the principal town, but *Ootacamund*, a small place situated among the Neilgherries, is of more interest to Europeans, by whom it is greatly resorted to as a sanitary station.

The province of MALABAR lies along the western coast of India, between the parallels of $10^{\circ} 20'$ and 12° , and is bounded on the land side by the high chain of the Ghats. A sandy plain stretches immediately along the coast, but towards the interior are numerous fertile valleys and ravines, which—as well as the hills that enclose them—are covered with verdure. Gold is washed down by the streams which water the coast, and is worked to a small extent among the mountains from which they flow. Pepper, cocoa-nuts, cardamums, betel-nuts, ginger, and rice, are among the chief vegetable productions both of this province and that of Canara, which adjoins it on the north, and the hillsides are clothed with magnificent forests of teak, sandal-wood, and other valuable timber. To the north-eastward of Malabar is the district of Coorg, a wild and mountainous territory lying among the ranges of the Ghats.

The town of *Calicut*, on the coast of Malabar, has 30,000 inhabitants, and carries on considerable trade, but has greatly declined from the importance it possessed when India was first visited by the Portuguese (in 1498), at which time it was the splendid capital of a native ruler called the Zamorin.— *Cananore*, further to the northward, is a flourishing sea-

port, and the principal military station in the province. *Cranganore*, 75 miles s. of Calicut, is a port of some note.

CANARA extends northward from Malabar to the 15th parallel, which forms the limit of the Madras Presidency upon this side of India; it is a narrow tract lying between the Ghauts and the sea, and resembles the last-mentioned province in character and produce. The principal town and seat of trade is *Mangalore*, which has about 11,500 inhabitants and exports great quantities of rice.

(509.) *Pondicherry*, on the Coromandel coast, 85 miles to the southward of Madras, is the capital of the French possessions in India. It has about 80,000 inhabitants, and carries on some trade. Indigo, sugar, and the mulberry, are cultivated in the vicinity. Like other places along this coast, Pondicherry possesses no harbour, but has a tolerable roadstead, and its situation is, on the whole, better adapted for commercial purposes than that of Madras.—The small town of *Mahee*, on the coast of Malabar (about midway between the towns of Cananore and Calicut), is also a French possession.

(510.) Upon the western coast, extending from the 15th nearly to the 16th parallel, and intervening between the respective limits of the Bombay and Madras Presidencies, is the territory of GOA, embracing an area of about a thousand square miles, and the principal of the Portuguese possessions in India. The city of *Goa*, which was once a great and splendid seat of trade and power, has long since fallen into utter decay, and is now chiefly in ruins. Six miles nearer to the coast is *Panjim*, or *New Goa*, which has about 9000 inhabitants, and carries on a limited commerce. The Portuguese also possess the town of *Daman*, on the coast to the north of Bombay, with about 6000 inhabitants; and *Diu*, a small town and fort, situated on an island of the same name, lying off the coast of the peninsula of Kattywar, or Guzerat. But all these are unimportant places, and of no real value to the Portuguese Crown.

2. PROTECTED STATES.

(511.) The States which still retain their native forms of government, though really in subjection to British influence, and in some cases under the direct administration of British officers, are Hyderabad, Mysore, Travancore, Cochin, Kolapore, Sawunt-Warree, Gwalior, Indore, Bhopaul, Guzerat, Cutch, the Rajpoot States, Bahawalpore, the various Hill States, and a few other territories of limited extent.

The most considerable among these powers are Hyderabad, which forms the territory of the Nizam; Gwalior, which belongs to the family of Scindia; and Guzerat, which constitutes the dominion of a native sovereign styled the Guicowar. Mysore, though nominally under the rule of a native rajah, is virtually a British possession.

(512.) HYDERABAD, or the Nizam's Dominion, embraces a large territory in the central portion of the peninsula, comprising an area of nearly 100,000 square miles. The whole territory belongs to the table-land of the Deccan, and is traversed by the rivers Godavery, Krishna, and their various tributaries.

The chief town, *Hyderabad*, is situated on a tributary of the Krishna, and has about 20,000 inhabitants; six miles to the N. W. is the fort of Golconda, formerly the depository of the diamonds found in the neighbouring parts of India.—*Beeder* is a decayed city to the N. W. of Hyderabad.—*Aurungabad* (60,000 inhabitants) is a large city in the N. W. part of the Nizam's territories; in its neighbourhood are the celebrated cave-temples of Ellora, and 50 miles to the north-eastward is the village of *Assye*, the scene of the splendid victory gained by the Duke of Wellington (then Sir A. Wellesley) in 1803.

(513.) **MYSORE**, a large province in the south of India, is entirely surrounded by the territories of the Madras Presidency. It forms a plateau of considerable elevation, and consequently enjoys a temperate climate. In addition to most of the ordinary productions of India, the vine and the cypress grow luxuriantly in many parts of this province, and apples, peaches, and strawberries, are raised in the gardens.

Under the dominion of Hyder Ali, and his successor Tippoo Saib, the extent of Mysore was, during the last century, much greater than at present: it now embraces about 30,000 square miles of country, and is nominally governed by a rajah, under British superintendence, but the government is in reality administered by the officers of the Madras Presidency.

The chief towns are, *Mysore* (population 65,000), in the southern part of the territory — *Seringapatam* (30,000 inhabitants), on an island in the river Canvery, — and *Bangalore* (60,000 inhabitants), at some distance to the north-eastward. Seringapatam was the capital of Tippoo Saib's kingdom, and was strongly fortified; but it was stormed by the British troops in 1799, since which its importance has declined.—*Bangalore* is now the largest town in the province, and has some silk and cotton manufactures, with considerable trade.

(514.) **COCHIN**, a small province on the south-west coast of India, and about 2000 square miles in area, lies immediately south of Malabar. The hills which form its inland boundary are covered with magnificent forests of teak and other wood, the timber of which is highly valued for ship-building. The town of *Cochin* (situated at the mouth of a considerable inlet of the coast) belongs to Great Britain, but the territory is governed by a native rajah.

(515.) To the southward of Cochin, and extending thence to Cape Comorin, is the province of **TRAVANCORE**, also a picturesque and beautiful territory: great portion of it is covered with forests, which abound in elephants, buffaloes, tigers, monkeys, and other wild animals. On the coast are several small but thriving ports, from which pepper, cardamums, teak-wood, sandal-wood, cocoa-nuts, coir (or cocoa-nut fibre), betel-nuts, cordage, cassia, and fish-maws, are exported. Travancore is under the government of a native rajah. The chief town is *Trivundrum*, on the coast to the north-west of Cape Comorin.

(516.) The country embraced within the northern and north-western parts of the Deccan was formerly under the rule of a people called the Mahrattas, whose power was at one time considerable, but was greatly weakened by the loss of the battle of Paniput, gained over them by Ahmed Shah (the sovereign of Canbool), in 1761, and has subsequently been completely destroyed in contests with the British.

Among the present remains of the Mahratta power are the small ter

territories of **KOLAPORE** and **SAWUNT-WARREE**, which adjoin the southward portion of the Bombay Presidency, by which they are nearly enclosed. Each territory is under the rule of a native rajah. The towns of *Kolapore* and *Sawunt-Warree*, their respective capitals, are of little note.

(517.) **INDORE**, the inheritance of the family of Holkar, one of the former feudatory chieftains of the Mahratta empire, is a small territory of irregular shape. It extends over the middle course of the river *Nerbudda*, and embraces a small part of the plateau of Malwa, to the northward of the *Vindhya Mountains*, — including altogether about 8300 square miles. The chief town, *Indore*, lies in the province of Malwa, on the plain to the northward of the *Vindhya Mountains*.

(518.) **GWALIOR**, or the dominion of Scindia, also a descendant of one of the principal Mahratta chieftains, includes a large tract of country of very irregular shape, stretching from near the head of the Gulf of Cambay to the banks of the river *Jumna*. This territory embraces the greater part of the plateau of Malwa, and includes altogether more than 33,000 square miles. The opium of Malwa is particularly celebrated, and this province is well adapted to the growth of the cotton-plant; grapes of the finest quality are also produced.

The capital of Scindia's territory is *Gwalior* (50,000 inhabitants), a strong town and fortress about 60 miles to the southward of *Agra*. *Gwalior* was besieged and taken by the British in 1842, previous to which the dominions of Scindia had ranked among the independent states of India.—*Oojein*, on the plateau of Malwa, further to the southward, is an ancient and venerated Hindoo city, with 150,000 inhabitants.

(519.) The small territory of **BHOPAUL**, 6700 square miles, in the south-east corner of Malwa, extends from the right bank of the *Nerbudda* northward over the *Vindhya Mountains*, and is governed by a native rajah. The chief town is *Bhopaul*, near the north foot of the *Vindhya* range.

(520.) The district of **BUNDELCUND** adjoins the *Gwalior* territory to the eastward, and stretches along the right bank of the river *Jumna*. A great portion of it is now included within the British territory, and the remainder embraces some small states tributary to Britain, though governed by native rulers. The southern and eastern parts of *Bundelcund* are hilly: the more level tracts produce in abundance all the ordinary grains and plants of India. In the south-eastern part of the district are the diamond mines of *Punnah*, now exhausted.

The territory of **REWAH**, further to the eastward, also forms a small native state, the capital of which is a town of the same name (about 65 miles s.w. of *Allahabad*).

(521.) The extensive province of **GUZERAT**, which includes nearly the whole peninsula of *Kattywar* (between the gulfs of *Cutch* and *Cambay*), is comprised within the dominions of a sovereign styled the *Guicowar*, a representative of one of the branches of the former Mahratta power. The *Guicowar's* territories include about 30,000 square miles; the peninsular portion is hilly in the interior, and only scantily supplied with water, but most parts of *Guzerat* are very fertile, and produce indigo, cotton, sugar, tobacco, and corn.

The town of *Baroda* (the capital of the *Guicowar's* dominions) lies a

short distance to the north-eastward of the Gulf of Cambay, and has considerable trade, with 140,000 inhabitants.—*Cambay*, at the head of the gulf and on the estuary of the river Mhye, was formerly of more importance than at present, but has declined from the filling up of its harbour by the deposits of the river.—*Diu*, off the south coast of the Kattywar peninsula, has been mentioned as a small Portuguese settlement (Art. 510.).

The mercantile classes in Guzerat, and likewise in many of the principal commercial towns on the west coast of India, belong to a tribe called *Banians*. Many of the Banian merchants are very wealthy, and engage actively in distant commercial voyages.

(522.) *CUTCH*, a small territory under the government of a sovereign termed the *Rao*, is a narrow peninsula lying between the Gulf of Cutch and the tract called the Runn (Art. 495), embracing about 7000 square miles. The soil is not generally fertile, but cotton is grown to some extent; animals (including the horse, goat, sheep, ox, and wild ass) are very numerous. The flesh of the wild ass is used as food by the Mohammedan portion of the population.

The chief town is *Bhooj*, in the middle of the peninsula.—*Mandivee*, on the south coast, at the entrance of the Gulf of Cutch, is the chief sea-port of the province. The mariners of Cutch are a bold and enterprising race, and carry on considerable trade with the shores of the Red Sea, the coasts of Africa, and many parts of Southern Asia.

(523.) *RAJPOOTANA* is the name of a large tract of country in Northern India, extending eastward from Sinde to the territory bordering on the Jumna, and embracing the region of the Great Desert and the tract of the Aravulli Mountains. It is divided into numerous small states, in most of which the ruling people are a race called the *Rajpoots*, whence the name of the territory is derived. The western and northern parts of Rajpootana are generally arid, barren, and comparatively unproductive; but the southern and eastern parts, to the eastward of the Aravulli Hills and towards the banks of the river Chumbul, are watered and fertile.

The principal of the Rajpoot States are Oodeypore (or Mewar), Sirhohi, Jhodpore, Jeysulmere, Bikanere, Jeypore, and Kotah, all of which embrace territories of some extent, and derive their names from those of the principal towns which they contain. *Oodeypore*, *Jhodpore*, *Jeysulmere*, *Jeypore*, and *Bikanere*, are the most considerable towns.

(524.) *BAHAWALPORE*, a considerable territory to the north-west of the Rajpoot States, extends from the banks of the Indus and Sutlej eastward into the desert, a large portion of which is embraced within its limits. Near the rivers the soil is fertile, and produces corn, tobacco, indigo, and sugar. This territory is governed by a ruler styled the Khan. *Bahawalpore* (20,000 inhabitants) is also the name of the chief town, which lies on the left bank of the Sutlej, about 58 miles to the southward of Mooltaun. It has an extensive trade and flourishing silk manufactures.

(525.) The territories included under the general name of the Hill States are situated in the extreme north of India, amongst the high valleys of the Himalaya. They embrace together an area of about ten thousand square miles, with a population exceeding half a million. As

many as nineteen different States are enumerated, most of them of very small dimensions.

In this part of India, within the tract limited on one side by the upper course of the Sutlej, and on the other by the river Alaknanda (one of the two principal arms of the Ganges), are the territories of KOONAWUR, SIRMORE, and GURHWAL, all of them situated amongst the wildest region of the Himalaya Mountains, and embracing a succession of Alpine valleys, stupendous declivities, and deep ravines. Gurhwal contains the sources both of the Ganges and the Jumna, which are regarded by the Hindoos with the utmost reverence, and are visited by numerous pilgrims. Some of the tribes who inhabit these wild regions dwell in villages situated at altitudes of from seven to twelve thousand feet above the sea, and derive their subsistence from the carrying-trade which they pursue with the people of Tibet.

These territories are governed by numerous petty rajahs, under British protection. The chief towns which they contain are *Sungam* and *Kanam* (both in Koonawur), and *Nahm*, in the territory of Sirmore. Koonawur forms part of the province of Bussahir, one of the most considerable of the Hill States.

SIKHIM, a small state much further to the eastward, between the territories of Nepaul and Bootan, has upon its northern frontier the loftiest peaks of the Himalaya system, and the highest known mountain-summits on the globe. It is under the government of a rajah, whose residence is the small town of *Tumlong*.

3. INDEPENDENT STATES.

(526.) CASHMERE, which embraces the fine valley of that name, is situated to the northward of the Punjab. Cashmere was formerly included in the Sikh dominions, and formed a part of the late kingdom of Lahore; but in 1846 it was (with a large adjacent territory) erected into a separate state, under the government of a native rajah.

The valley of Cashmere, which lies at a considerable elevation above the sea, is watered by the upper course of the river Jeloum, and is bounded on either hand by some of the highest summits of the Himalaya Mountains. It contains several small lakes, of which that called the *Wuler* lake (an expansion of the Jeloum) is the most considerable. The soil is very fertile, and the valley is especially celebrated for its abundant fruits and flowers, among which the rose is carefully cultivated for the sake of the *attar* extracted from it. The shawls woven from the fine hair of the Cashmere goat also enjoy the highest reputation; but the demand for them has fallen off of late years.

The capital, called *Serinuggur* (or, more frequently, *Cashmere*), lies on the banks of the Jeloum, and has 40,000 inhabitants. Higher up the river is *Islamabad*, also a considerable town.

(527.) NEPAUL, the largest among the independent governments of India, is a narrow strip of country which extends along the southern slope of the Himalaya Mountains, for a length of nearly 500 miles, between the British province of Kumaon on the west and the little state of Sikhim on the east. The greater part of its surface is rugged, and along its northern frontier it includes many of the highest elevations

belonging to the mountain-region. The valleys, however, are generally fertile. Nepaul exhibits great diversity both of climate and natural life, the vegetable and animal productions of tropical regions being found almost side by side with those of the temperate zone. Nepaul was formerly in the possession of several independent rajahs, but all these are now subject to the head of the Ghoorka tribe, who is the sovereign of the entire country.

The chief town, called *Khatmandoo* (with 50,000 inhabitants), lies in a circular valley, at an elevation of nearly 4800 feet above the sea. The town of *Ghoorka* is situated further to the westward.

(528.) **BOOTAN**, to the eastward of Nepaul and Sikhim, is also a long and narrow territory, which stretches along the north side of the valley of the Brahmapootra, and embraces a succession of rugged mountain-tracts and elevated valleys. It is under the government of a ruler styled the *Deb-rajah*: the chief town is *Tassisudon*, near the western frontier.

The inhabitants of Nepaul and Bootan, and indeed of all the hill-countries of India, are a more hardy and energetic race than the Hindoos in general. The Booteans are industrious cultivators of the soil, and both these people and the Nepaulese carry on considerable traffic across the mountains, in the interchange of the productions of Bengal and Tibet: the Booteans are believed to be in part of Mongolian origin.

ISLANDS OF INDIA.

(529.) Ceylon, to the south of India, has an area of 25,742 square miles (about one-sixth smaller than Ireland). It is divided from the mainland by Palk's Strait and the Gulf of Manaar; but a long chain of islets and shallow sand-banks (called Adam's Bridge) nearly connects its north-west coast with the shores of the continent. Ceylon is oval in form, and has a compact shape, with few indentations, though extensive salt-water lagoons occur on some parts of the coast.

The interior of Ceylon comprises an extensive mountain-region, but a broad belt of lowland extends round the coast, and the northern half of the island is generally level. The higher portions of the mountain-region form a plateau with a mean elevation of 6000 feet above the sea, and upon which various peaks rise to a further height of 2000 feet. Pedrotallagalla, 8300 feet in elevation, which overlooks the high plain of Newera Ellia, is the loftiest point in the island: Adam's Peak, further to the southward, is 7420 feet in absolute height. Among the mountain-districts there are numerous beautiful and fertile valleys, as well as elevated plains.

The longest river of Ceylon is called the Mahavilla-Gunga, which flows from the centre of the island towards the north-eastern coast, and has a length of about 200 miles. There are numerous smaller streams, and the salt-water lagoons along the western coast serve partially for the purpose of inland navigation. Ceylon has several good harbours, of which that of Trincomalee, in the north-east, and Galle, at the south-west extremity of the island, are the most safe and extensive. Among the mineral productions of the island are iron, manganese, and plumbago,

together with nitre, alum, and salt, the last of which is largely exported to Madras and other parts of India. The ruby, amethyst, topaz, sapphire, cat's-eye, beryl, and other precious stones, are also found, and there is a valuable pearl-fishery in the Gulf of Manaar.

The climate of Ceylon, like that of the Indian peninsula, is entirely under the influence of the monsoons; the north-east monsoon prevails from November to February, and the south-west monsoon from April to September. In the intervening months variable winds and calms are experienced. The heat is not in general so great as on the mainland, but the eastern side of the island is uniformly hotter and drier than the western and south-western coasts. In the mountain-district a temperate climate is experienced: at Newera Ellia (elevated 6300 feet above the sea) the thermometer ranges between 35° and 80° , and sometimes falls in winter below the freezing point,—while at Colombo (on the west coast) the mean temperatures of winter and summer are 79° and 81° , and at Trincomalee 77° and 84° .

The vegetation of Ceylon includes nearly all the valuable productions of the adjacent mainland, besides others not found elsewhere. Rice is grown to a considerable extent in the lower parts of the island; the coffee-plant chiefly in the interior provinces. The forests abound in teak, and also in ebony, satin, rose, sapan, iron, jack, and other ornamental woods. But the two most characteristic of the vegetable productions are the *cocoa-nut palm* and the *cinnamon-plant*. The former of these contributes largely to the food of the people; and every part of it—the leaves, the sap, the kernel, the shell, and the outer covering or husk—serves some useful purpose. Oil is largely extracted from the nut, and its preparation is carried on at Colombo upon an extensive scale. The cinnamon is chiefly grown in the southern districts of the island, and towards the more elevated parts of the interior.

Among the native quadrupeds are the elephant, which is very numerous in the northern and eastern provinces, together with nearly all the animals common to the adjacent mainland.

The population of Ceylon amounted, in 1857, to 1,698,000, of whom fewer than 5,000 are whites. The Singalese (as the bulk of the natives are called) inhabit chiefly the central and southern parts of the island; people of Hindoo origin occupy the north and north-eastern coasts; and Moors or Mohammedans (of Arabic descent) are found scattered throughout the island. A people called the Veddas, who are probably the descendants of the aborigines, are found in the forests and remote parts of the interior, in a very low condition of savage life.

The Buddhist worship almost universally prevails throughout Ceylon. Christianity, however, has made some progress among the native population, and Colombo is the seat of one of the colonial bishopricks belonging to the English Church.

Ceylon forms a dependency of the British crown. It is unconnected with either of the presidencies of the Indian mainland, and is under the administration of a governor, assisted by legislative and executive councils. Colombo is the seat of the supreme court of justice, and the capital of the island. Before its possession by Britain, Ceylon was colonised both by the Portuguese and the Dutch. The coast districts came into the possession of Britain at the close of the last century, but the interior remained under the government of a native sovereign—the King of Candy—until 1815, when he was deposed by the British.

Ceylon is divided into five provinces,—the Northern, Eastern, Southern, Western, and Central. The internal trade, as well as the foreign commerce of the island, has been greatly extended within recent years. The exports of Ceylon are chiefly coffee, cocoa-nut oil, and cinnamon, almost the whole of which are supplied to Britain. But the present amount of its trade, though considerable, is inferior to that which it enjoyed in the 11th and 12th centuries, in the hands of the Arabian merchants.

Colombo, the capital, has about 35,000 inhabitants, and carries on the greater part of the foreign trade. It possesses only a small harbour, but ships anchor safely in the roadstead, excepting during the s. w. monsoon.—*Galle* (or Point de Galle), in the south, possesses an excellent harbour, and is the station for the East Indian steam-packets.—*Trincomalee*, on the north-east side of the island, is a well-fortified town, with a good harbour and considerable trade.—*Candy*, in the interior, is now only a large village: *Newera Ellia*, 47 miles to the southward, is frequented as a sanitary station, owing to its elevation and temperate atmosphere.

(530.) The *Laccadive Islands*, a group of seventeen in number, are situated about 150 miles to the westward of the coast of Malabar. They are of small size and trifling elevation above the sea, and mostly protected by coral reefs on the windward side: the cocoa-nut is their only valuable article of produce. The inhabitants, about 6500 in number, are the subjects of the *Biby*, or native princess, of Cananore, upon the adjacent coast of the mainland.

The *Maldivé Islands*, a more considerable archipelago than the preceding, lie further to the southward, and extend through nearly 500 miles in a north and south direction. They form numerous circular groups or assemblages of islands, called *atolls*, each group being surrounded by a wall of coral rock, which is only at a trifling elevation above the sea,—in some cases scarcely reaching the level of high water. The islets themselves are entirely composed of coral rock, and the highest ground in the archipelago does not exceed 20 feet in altitude. In the centre of each atoll is a lagoon, of only 15 or 20 fathoms depth, but the channels between the different groups are much deeper, and some of them afford a passage for the largest vessels.

As in the case of the preceding group, the most valuable possession of the Maldivé Islands is the cocoa-nut palm, the various produce of which is largely exported by the natives.

The inhabitants of the Maldives are under the dominion of a native chief, but annually render a nominal homage to the British governor of Ceylon. They are Mohammedans in religion, and are described as a mild and inoffensive race.

(531.) To the southward of the Maldivé Islands (lying nearly under the same meridian, and between the 5th and 8th parallels of s. latitude) is the *Chagos Archipelago*, a group of coral reefs, situated in the broader part of the Indian Ocean. The largest of them is the island of Diego Garcia, which is 15 miles in length, and only from 8 to 10 feet above the level of high water.

The islands of the Chagos Archipelago are covered with tall cocoa-nut trees, the other produce consisting of poultry, pigs, fruit, and vegetables. A small quantity of cotton is grown upon some of the

group. There are a few European settlers, chiefly French, and the islands are sometimes visited by trading-vessels for the sake of fresh provisions and water. A small quantity of cocoa-nut oil is exported. These islands form a dependency of the British colony of Mauritius.

SECTION VI.—EASTERN INDIA, OR THE INDO-CHINESE PENINSULA.

(532.) *Boundaries and Extent.*—The south-eastern peninsula of Asia (which is called, from its situation, *India beyond the Ganges*, or *the Indo-Chinese peninsula*) is bounded on the north by China and Tibet, on the east and south by the China Sea, and on the west by the Bay of Bengal and the plains of Northern Hindoostan. It embraces altogether about a million of square miles, and is chiefly divided among three native states,—viz. the Empire of Burmah, the Kingdom of Siam, and the Empire of Anam (or Cochin-China). There are also considerable territories which belong to Great Britain, besides some small Malay states in the extreme south of the peninsula. But the whole peninsula constitutes one geographical region, and the countries which it includes may be described under the same general head.

(533.) *Natural Features, Climate, &c.*—The Indo-Chinese peninsula consists of several long river-valleys, which lie in the direction of north-west and south-east, and are divided by a succession of mountain-chains (Art 455). The rivers by which these valleys are watered are the Sang-koi, the May-kuang or Mekon, the Meinam, the Saluen, and the Irawady, all of which flow through rich alluvial plains in their lower courses. The narrow peninsula of Malaya, which is prolonged to the southward of the entire region, has a chain of hills running through its whole length, but their altitude is inconsiderable.

The climate and natural productions of the Indo-Chinese countries resemble in most respects those of the peninsula of Hindoostan. The western coasts (which border on the Bay of Bengal) are exposed to the influence of the south-west monsoon, and have a humid atmosphere, resembling that of the Malabar coast of India; but they are found less insalubrious to European constitutions. Singapore (at the southern extremity of the Malay peninsula), though within little more than one degree of the equator, has a mean annual temperature (80·6) which is lower than that either of Calcutta, Madras, or Pondicherry, and which is subject to a very slight degree of variation,—the difference between its summer and winter temperatures being only 2·3, and between that of the hottest and coldest months only 3·6.

The extensive forests in all parts of the peninsula yield abundance of the most valuable timber, among which are many woods used as dyes and perfumes. One of the most valuable of these is the eagle (or aquila) wood, which grows plentifully in Cochin-China and Siam, and is largely exported to China, where it is used as a perfume in the temples. The teak of this peninsula is inferior in quality to that of the Malabar coast. Cinnamon grows in Cochin-China, and is confined to that country and Ceylon. Among the native productions of Camboja is *gamboge*, and there are besides, throughout the Indo-Chinese countries, numerous valuable gums, resins, spices, grains, and fruits.

(534.) *Inhabitants*.—The total population of the Indo-Chinese countries is perhaps about twenty-two millions: about three millions of these are inhabitants of Burmah;—Siam contains about six millions;—and the Cochin-Chinese empire thirteen millions. All of them are thinly-peopled countries, compared to other portions of eastern and southern Asia, and considered in reference to their great natural wealth and fertility.

The Indo-Chinese constitute a distinct race, the general characteristics of which are the same throughout the peninsula, though with numerous minor differences. They are in general a more robust and hardy people than the Hindoos, but the people of Siam are said to be inferior to their neighbours in activity and intelligence. The people of this peninsula are below both the Chinese and the Hindoos in industrial skill, and have made fewer advances towards a condition of civilisation. Chinese settlers are numerous in the coast districts of Anam, as well as in some parts of Siam, and form the most industrious portion of the population. In the extreme south of the peninsula the people belong to the Malay race.

Throughout these countries the native governments are of the most despotic character, and the most servile submission is exacted by the monarchs from all classes of their subjects. The laws are in general sanguinary, and the punishments marked by the greatest cruelty. The nobles usually hold their lands upon a tenure of military service, and the mass of the people are in a condition of absolute slavery. In the empire of Anam the government is administered by officers styled *mandarins*, of whom there are two classes,—civil and military. Corporal punishment is universally inflicted for offences of every grade, short of those which are held to merit death.

In Burmah and Siam the Buddhist religion generally prevails, and is also professed by some of the people of Anam. In Burmah the chief deity is worshipped under the name of Gaudma, in whose honour a vast number of temples and images are everywhere found. Throughout the peninsula the most abject superstitions prevail, and the grossest idolatries are practised.

In all these countries a great part of the labour is performed by the women, who are throughout Asia regarded as the mere slaves of the other sex; but in many respects they enjoy here a greater degree of personal freedom than among some other nations of this continent.

(535.) *Industrial Pursuits*.—Agriculture is more extensively pursued

than any other branch of industry, though in the most imperfect manner. Rice is the most common object of cultivation, and one of the chief articles of food : the sugar-cane is extensively raised in Burmah, Siam, and Cochin-China, and the mulberry (for the purpose of the silkworm) in Cochin-China and Tonquin. Cotton, indigo, and tobacco, are also generally grown, and cotton is supplied from the neighbourhood of Ava (in Burmah) to Dacca, in Bengal, for the purpose of being wrought into the fine muslins of that city.

Manufactures are not practised on a scale of any extent ; a few silk and cotton goods are woven, chiefly by the women, and the art of dyeing is practised. Coarse earthenware is made in Burmah, and the people of that country excel in gilding, their fondness for which is exhibited in the numerous images of Gaudma, their principal idol, which adorn the temples. The Burmese are also famous for the huge bells which they cast, and which are likewise designed for the service of the temples. Some iron and other metal-works are carried on in Siam by the Chinese settlers, as well as the preparation of leather. The people of Cochin-China excel in ship-building.

The houses in all these countries are constructed of the most slender materials, consisting only of bamboo and matting, covered with thatch, and frequently raised on a foundation of piles several feet above the ground, in order to be out of the reach of the inundations periodically experienced in the tracts bordering upon the great rivers.

All the Indo-Chinese countries carry on an extensive trade with China, and also with Great Britain and the British possessions in southern Asia. This is chiefly a maritime traffic, and in Cochin-China and Siam the greater part of the foreign trade is in the hands of the Chinese settlers. The Burmese have also an extensive overland intercourse with China, the merchants of which country they meet at the town of *Bhamo*, on the river Irawady (in lat. $24^{\circ} 15'$), only a short distance from the Chinese frontier. The internal communication is mostly by means of the rivers, as there are few or no roads, in the proper sense of the term.

The principal exports to China are raw cotton, feathers, pepper, sugar (the latter chiefly from Siam), cardamoms, areca-nuts, eagle-wood, with ebony, rose, sapan, and other ornamental woods, ivory, edible birds'-nests*, silk, rice, varnish, and metals ; in exchange for which, porcelain, tea, quicksilver, with silks, and other Chinese manufactures, are imported. The trade with the British settlements consists principally in the export of timber, gums, wax, cardamoms, raw silk and cotton, and the import of British piece goods (with gunpowder, sulphur, saltpetre, and fire-arms) in exchange.

(536.) *Divisions*.—1. THE KINGDOM OF BURMAH. Burmah is the most westward of the three great countries of the Indo-Chinese peninsula ; it is traversed from north to south by the river Irawady, which is navigable

* These are the nests of a species of swallow, native to some of the islands of the East Indian archipelago, and consist of a glutinous substance, resembling a fibrous ill concocted isinglass,—or rather a collection of fine filaments, cemented together by transparent viscous matter. They are eaten as a luxury by the Chinese, who make them into soup, and also consume them in other forms.

for vessels of 200 tons burthen as high as Ava, and during the rains as high up as the town of Bhamo, 800 miles from the sea. The province of Pegu, which includes the extensive delta of the Irawady, was annexed to the Asiatic empire of Britain in 1853.

Amarapoora, situated on the left bank of the Irawady, is the present capital of the Burmese monarchy, and, with its suburbs, has about 90,000 inhabitants.—*Ava*, the former capital, six miles to the south-west of *Amarapoora*, has been abandoned since 1837, and is now almost a wilderness.—*Bhamo* (about 12,000 inhabitants), in the northern part of Burmah, is the seat of the inland trade with China, many of the natives of which country are settled there.

2. KINGDOM OF SIAM.—Siam lies to the eastward of Burmah, and embraces the extensive plain watered by the river Meinam, together with a part of the district of Camboja, upon the east side of the Gulf of Siam. It is, in a commercial point of view, the most important of the Indo-Chinese countries, and carries on an extensive intercourse with China, chiefly by means of vessels built in Siam, but navigated by Chinese sailors. The trade between Siam and Cochin-China is also considerable, as well as that with the British settlements on the Malay peninsula, and with the islands of the East Indian archipelago.

The capital, and also the chief seat of trade, is *Bankok*, a large town on the banks of the river Meinam, near its mouth. The population is upwards of 300,000, a large portion of whom live in houses built upon rafts, floating in the river.—*Ayuthia*, or *Siam*, the ancient capital, is a large town to the northward.—*Chan-ti-bon*, near the east coast of the Gulf of Siam, has 30,000 inhabitants, and carries on considerable trade.

3. The EMPIRE OF ANAM lies upon the east side of the Indo-Chinese peninsula, and embraces the countries of Tonquin, Cochin-China, Chiampa (or Siampa), and part of Camboja.

Tonquin, the most northern of these, is adjacent to the Chinese frontier, and consists in its eastern part of a rich alluvial plain, watered by the river Sang-koi.

Cochin-China extends along the coasts of the China Sea, and is bordered inland by a range of high mountains: it has numerous rivers, but all of short courses.

Chiampa is a mountainous province, also on the shores of the China Sea, and in the more southern part of the empire.

Camboja is a fertile territory, watered by the river Mekon, and divided by its stream into two parts, the eastern of which belongs to Anam, and the western half to the kingdom of Siam.

The town of *Hué*, on the coast of Cochin-China, is the capital of the empire, and has about 50,000 inhabitants.—*Kachao*, in Tonquin, on the right bank of the Sang-koi, is a large town with considerable trade.—*Saigon*, formerly the chief city of Cambodia, is on the banks of a navigable river called by its name, to the eastward of the Mekon. Its commerce, once considerable, has become transferred to *Pingeh*, nearer the sea, and the present capital of the province.

(537.) In the interior of the Indo-Chinese peninsula, lying between the frontiers of China and those of the three states above described, is

the country of the *Laos*, a people divided into numerous tribes, and spread over an extensive region. Some of the Laos tribes are subject to China, and others to the sovereigns of Burmah, Anam, and Siam ; but many of them maintain their independence, and are under the government of native chieftains. A great portion of their territory is mountainous, and is rich in the produce of gold, silver, copper, and iron, all of which are largely exported to China. In the extensive forests are found the varnish-tree, with many valuable woods. Rice is the grain chiefly cultivated ; the silk-worm is reared to some extent. Bullocks are numerous, and are exported to Ava. There are many Chinese settlers in the northern part of the Laos country.

(538.) The *Malay peninsula*, in the extreme south of the region described in this section, is divided into numerous small states ; the more northern of these are subject to the Kingdom of Siam, but others of them are independent, and under the government of native rajahs. The inhabitants of the Malay States are a distinct race from the Indo Chinese, and are more muscular in form, shorter in stature, and coarser in features, than their neighbours. The Malays are expert navigators, and many of them are engaged in piracy ; others, however, carry on an extensive traffic with the different nations of the Eastern Archipelago.

The principal Malay States are *Patani*, *Tringanu*, *Kalantan*, and *Quedah*, within the portion of the peninsula subject to Siamese rule ; and *Perak*, *Salangore*, *Pahang*, and *Johore*, further to the southward. Among the mountains in the interior of the peninsula are some savage tribes belonging to the Papuan race, and dwelling in a condition of absolute barbarism.

(539.) The **BRITISH TERRITORIES** in the Indo-Chinese peninsula consist of Assam, Aracan, Pegu, the Tenasserim provinces, Penang or Prince of Wales's Island, Malacca, and Singapore. All of these are situated on the western side of the peninsula, and extend, at intervals, from its northern to its southern extremity.

With the exception of Penang, Malacca, and Singapore, which form a distinct province, under the title of the Eastern Settlements, and subject only to the supreme government of India, the above territories are dependencies of the Bengal presidency.

1. **ASSAM** is a narrow country lying along the upper course of the Brahmapootra, and limited to the valley of that river. On the west it adjoins the province of Bengal, and stretches thence to the eastward for a distance of about 450 miles.

On the north and south, Assam is bounded by high mountains, but the greater part of the country is level, or studded with little conical green hills from 200 to 700 feet in altitude. Its area is about 22,000 square miles, nearly seven-eighths of which are covered with forest or jungle.

Among the native productions of Assam are gold-dust (found in the mountain-streams which join the Brahmapootra), iron, coal, and amber ; the tea-plant is found growing in a wild state, and its cultivation is now

pursued to a considerable extent. The caoutchouc (or India-rubber) tree, the areca-palm, the ratan, and the coffee-plant, with numerous gums and fruits, are also abundant. Elephants are numerous, besides tigers, rhinoceroses, and many other wild animals. The climate is tropical, and the rains last for nearly six months of the year.

The population of Assam is about 700,000, who are chiefly Hindoos, and mostly followers of the Brahminical worship.

Some trade is carried on between Assam and the adjacent countries, consisting chiefly in the export of gold-dust, ivory, amber, musk, and salt, in exchange for nankeens, silk, and lacquered wares, from China,—with broad-cloths and other manufactured goods from Bengal. But the whole amount of this traffic is inconsiderable, and the natural resources of the country are as yet quite undeveloped.

The towns in Assam are merely long straggling ranges of huts, of the most slender construction: during the rains, the whole country in the neighbourhood of the rivers is under water, and the people dwell in canoes, often seen floating over the tops of the villages which form their residence at a different period of the year. *Gowhatty*, situated on the south bank of the Brahmapootra (in long. $91^{\circ} 45'$) is indeed the only place really deserving to be called a town. *Goalpara*, seventy miles further to the west, is on the frontier of Bengal. Both places are within Lower Assam. *Sudiya*, in long. $95^{\circ} 42'$, is the chief place in the upper division of the province.

Assam was formerly a province of Burmah, but was ceded to Britain in 1825.

To the southward of Lower Assam are the territories of Jynteah and Cachar, which together have an area of about 10,300 square miles, and both of which belong to Britain. These are wild, mountainous, and thinly-populated tracts, for the most part covered with jungle and forest, amongst which are an immense number of wild animals. Cachar is watered by the river Barak (a tributary of the lower Brahmapootra), upon which is situated the town of *Cossipore*, its capital.

2. **ARACAN** is a narrow strip of country extending along the east side of the Bay of Bengal, from Cape Negrais northward to the parallel of $21^{\circ} 40'$, where it joins the district of Chittagong (Art. 500). Its inland frontier is formed by a range of mountains, which divide it from Burmah and the valley of the Irawady. Its area is about 16,000 square miles, and its population about 250,000.

The coast of Aracan is intersected by numberless creeks and inlets (many of them the mouths of rivers), and numerous small islands adjoin the mainland. The longest river is the Kuladyne (or Aracan), in the northern part of the province. Great part of the valley of this river is swampy, and the low grounds are in general inundated during the rains, which are very abundant. Owing to its extreme moisture, the climate of Aracan is very unhealthy; but the soil is admirably adapted to the growth of rice, which is the staple produce of the country, and is largely exported. Other objects of cultivation are cotton, sugar, hemp, tobacco, and indigo; and the extensive forests supply abundance of tropical woods and fruits.

The town of *Aracan* (10,000 inhabitants) is situated on the river of

that name, about fifty miles from the sea; but *Akyab*, upon an island at the mouth of the river, is now the capital of the province, and the chief seat of its trade. The other principal towns are *Ramree*, upon an island to the southward, and *Sandoway*, at the mouth of a navigable river still further south.

Aracan was acquired from the Burmese by the East India Company, in the year 1826.

3. *Pegu*, formerly the richest province of the Burmese empire, was ceded to Britain in 1852, at the close of the second Burmese war. It includes the extensive delta of the Irawady, with a large adjoining tract of the interior, embracing an area of not less than 20,000 square miles.

The town of *Pegu* stands beside a river of that name, which joins the eastern branch of the Irawady. *Rangoon*, the largest town in the province, and a flourishing seat of trade, is upon the eastern arm of the Irawady, a short distance above the sea. The western arm of the river passes the town of *Bassein*. *Prome*, in the more northerly portion of the province, is on the main channel of the Irawady, below *Ava*.

4. The districts embraced under the general name of the **TENASSERIM PROVINCES** extend along the east side of the Gulf of Martaban, from the river Sitang (on the eastern border of Peru) southward nearly to the 10th parallel of latitude. Upon the east side they are divided from Siam by a range of mountains, between three and five thousand feet in elevation.

The Tenasserim provinces consist of Martaban, Yey, Tavoy, and Mergui (or Tenasserim), which together embrace an area of about 32,500 square miles, with a thinly-scattered population of 118,000. Martaban, the most northern, contains some extensive level tracts, but the provinces further south are generally hilly. Numerous small islands lie off the coasts of Tavoy and Mergui.

The climate and natural productions of the Tenasserim provinces are strictly tropical. The heat during part of the year is great, but is tempered by the sea-breezes, and during the rains (which are very abundant) the strength of the south-west monsoon prevents the atmosphere from becoming oppressive. The territories of Martaban and Mergui are considered more especially salubrious. The whole country is covered with luxuriant vegetation, and the forests are of vast extent: only a very small fraction of the land is under cultivation. The chief agricultural products are rice, cotton, indigo, black pepper, and the areca-nut: these are exported, together with various natural productions, among which are cardamoms, catechu, bees'-wax, ivory, rhinoceros' horns and skins, edible birds'-nests, and sea-slug—the two latter to the markets of China, where they are in constant demand.

Good coal is found at Maulmein, and also in the neighbourhood of the town of Tenasserim.

The chief town in the Tenasserim provinces is *Maulmein*, situated on the left bank of the Saluen (or Salween) river, near its mouth; it has above 17,000 inhabitants, among whom are Parsees, Armenians, and Burmese, and carries on a great export trade, receiving in exchange English piece-goods, coarse cloth, cutlery, fire-arms, and other articles, which are supplied to the people in the interior. The town of *Martaban*,

on the opposite bank, is within the tract of country lying between the Saluen and Sitang rivers. — *Amherst*, on a promontory at the mouth of the Saluen, lower down, has a good harbour, but has been superseded in importance by Maulmein.

The town (or rather village) of *Yek* lies 6 miles above the mouth of a small river of the same name, to the southward of Maulmein. — *Tavoy*, still further south, occupies a swampy situation on the estuary of the navigable river Tavoy, and has 10,000 inhabitants. — *Mergui* is a well-built town at the mouth of the Tenasserim river, about 30 miles above which, on the same stream, is the town of *Tenasserim*.

The Tenasserim provinces were acquired by Britain in 1826, at the same time as the province of Aracan, by treaty with the Burmese Government.

5. **PENANG, or PRINCE OF WALES'S ISLAND***, lies off the west coast of the Malay peninsula, and has an area of 160 square miles. A range of hills runs through its centre, but on the west and south there is a considerable level tract. The climate is remarkably healthy, and the soil very fertile. The capital is *Georgetown*, one of the neatest towns in the East Indies, with a good harbour. The population of the island is about 40,000.

Upon the coast of the peninsula, opposite to Penang, is a small district called *Wellesley province*, about 35 miles long and 200 square miles in area, with a population of 50,000. The breadth of the channel between it and the island does not exceed two miles. Wellesley province belongs to Britain, and is a dependency of Penang.

The island of Penang was acquired by the East India Company in 1785, at which time the island was without a single inhabitant. The tract upon the adjacent mainland was obtained in 1800.

6. The town of **MALACCA**, on the south-west coast of the Malay peninsula, with an adjacent territory extending for about forty miles along the coast and thirty miles inland, was ceded to Britain, in 1825, by the Dutch, in exchange for Bencoolen, in Sumatra. The coast of the Malacca territory is rocky and barren; the interior mountainous, with picturesque and fertile valleys. The population of the town of Malacca is about 5000, and that of the entire territory about 54,000. The town is well-built, and its situation healthy, but the trade has declined. Malacca is, however, rendered important by its position on the strait to which it gives name, and is the principal station of the British military force in this part of Asia.

7. The town of **SINGAPORE**, situated on an island of the same name, lies off the southern extremity of the Malay peninsula. The island is twenty-seven miles long by fifteen broad, and is divided from the mainland by a narrow strait; its area is 270 square miles, but with some small adjacent islets the whole area of the settlement is about 330 square miles.

The surface of the island of Singapore is beautifully diversified with

* Properly *Pulo-Penang*, or Betel-nut Island,—*penang* being the Malay name for the areca-palm, which produces the nut eaten (along with the leaf of the betel) all over south-eastern Asia.

hills and valleys, and well stocked with timber ; its climate equable and healthy, and its soil fertile. The town is situated on the south side of the island (only $1^{\circ} 17'$ to the north of the equator), and is well-built, with a commodious harbour, protected by a fort. It has become a central emporium for the trade of the China and Java seas, and is one of the most important commercial stations in this part of the globe.

The population of Singapore exceeds 57,000, among whom are a large number of Chinese settlers, besides Malays, Hindoos, and people of other Oriental nations ; the Chinese are among the most industrious classes of the inhabitants. The Malay is the general language of commercial intercourse.

Singapore was taken possession of by Sir Stamford Raffles in 1818, and subsequently confirmed in British possession by treaty with the native Malay prince to whom it had belonged. The town, of which the foundations were laid by Sir Stamford Raffles, rapidly increased in size, and is at the present time largely extending in wealth and commercial importance.

The possession of the three stations of Penang, Malacca, and Singapore, gives Britain the complete command of the passage to China by the Strait of Malacca. The settlements of Labuan (off the coast of Borneo), and of Hong-kong, at the mouth of the Canton river, extend the chain still further to the eastward.

SECTION VII.—THE CHINESE EMPIRE.

(540) The Chinese empire embraces an area of more than four and a half millions of square miles, in which vast extent are included many large countries in the central and eastern parts of the Asiatic continent. The principal of these is China proper, in the south-eastern part of the empire, and its most populous and important portion.

1. CHINA.

(541.) *Boundaries and Extent.*—China is bounded on the north and north-west by Mongolia, on the west by Tibet, on the south by the countries of the Indo-Chinese peninsula and the China Sea, and on the east by the Pacific Ocean. From north to south its greatest extent is about fifteen hundred miles, and from east to west about twelve hundred. Its area is 1,300,000 square miles,—above six times the size of France, and more than eleven times the magnitude of the whole group of the British Islands.

(542.) *Natural Features, Climate, &c.*—China embraces every variety of surface, from high mountainous tracts to broad open plains and valleys. Many of the mountain-peaks near its western and south-western frontiers are said

to be covered with perpetual snow, and the province of Yunnan, in the south-west, is more generally mountainous and rugged than any other part of the country. The greater part of China, however, presents a succession of river-valleys, divided by ranges of high land. The provinces in the north-west border on the desert region of the Gobi, and partake in some degree of its character. In the north-east, along the shores of the Yellow and East Seas, there is an extensive and fertile lowland-plain, which has been already referred to (Art. 456).

The principal rivers are the Yang-tsze-kiang and the Hwang-ho, with their numerous tributaries, in the centre; —the Choo-kiang, or river of Canton, in the south; — and the Pei-ho, in the north. But every part of the country is well watered, and besides its numerous rivers China has some considerable lakes, the largest of which — Lake Tong-ting — is upwards of 2000 square miles in area. This, as well as Lake Poyang (800 square miles), is connected with the course of the Yang-tsze-kiang, in the valley of which it lies.

The climate of China is characterised by its low average of temperature as compared with that of other countries lying within the same parallels, and by its great extremes of heat and cold (Art. 462). In so extensive a country there are, of course, many local differences in this regard; thus at Canton, which is just within the tropic, the mean annual temperature is 69·8, and the difference between the hottest and coldest months equivalent to 30°, while at Peking (lat 39° 54') the mean temperature of the year is 55°, and the mean range of the thermometer nearly equal to 60°. Occasionally, though at very rare intervals, snow has been seen to fall at Canton, and during the winter a fire is frequently found agreeable.

Among the native productions of China, the most characteristic is the tea-plant, which grows chiefly in the south-eastern provinces, between the 27th and 31st parallels, though it is also found in other parts of the country. The tea-plant is a shrub of moderate size, which produces a small white flower; there are two principal varieties of the plant, either of which is capable of affording both the black and green teas of commerce — the differences between which depend upon the varieties of soil and culture, the season at which the leaves of the plant are gathered, and the various kinds of preparation which they afterwards undergo. Three gatherings of the leaves are usually made during the year: the first of these takes place in the middle of April, the second about Midsummer, and the third during August and September. The black-tea district is principally in the maritime province of Fokien, and that of the green teas in the provinces of Kiang-nan and Tche-kiang, a little further north.

(543.) *Inhabitants.* — According to the official statements

of the native government, the population of China amounts to 362,000,000, or a third part of the entire human race! This number, astonishing as it seems, is probably not beyond the truth, and recent observers have been disposed even to regard it as below the actual amount. Three hundred and sixty-two millions of people, upon an area of 1,300,000 square miles, gives an average of nearly 280 persons to the square mile; this ratio, though great, is less than that found either in Belgium or in England.* Every thing in China — its crowded cities, busy lines of road and canal, and its extensive manufacturing industry — gives the impression of dense population.

The Chinese belong to the Mongolian variety of the human race (Art. 465), and are almost universally below the stature of Europeans. There are, however, great differences between the inhabitants of the northern and southern provinces, and those of the maritime and the inland regions. Among the mountains of Yunnan and other secluded tracts there are tribes of different origin to the mass of the nation, who maintain themselves in a condition of partial independence. People of Tartar origin are numerously settled in many parts of China, and the present reigning family is derived from that stock.

The language of China is monosyllabic, and belongs to a class which presents peculiar difficulties to Europeans, owing to the vast number of its symbols or characters, each of which represents not merely a *sound*, but a *word* or *idea*. The same *written* language is common to the whole empire, but the *spoken* language differs in the various provinces.

The Chinese are a people remarkable for the tenacity of their adherence to established practices, and their extreme dislike to any kind of innovation. They appear to have attained at a very early period a certain degree of civilisation, beyond which they have never since advanced, and in laws, education, religion, politics, habits, — in short, in every particular of life, — are firmly held within the same routine of practice as their forefathers many centuries (perhaps more than two thousand years) since.† This is in a great measure the result of their systems of government and education, in which every attempt at originality is studiously suppressed, and the duties of implicit obedience, and the most formal adherence to established custom, are rigidly inculcated. Education is encouraged by the government, and schools abound throughout the country; indeed the possession

* The former country has 383 inhabitants, the latter 335, to the square mile (Art. 96).

† This fixedness of idea is, indeed, in some measure a characteristic not merely of the Chinese nation, but of Asiatic races in general, and is one in which they differ most strikingly from European nations, with whom civilisation is always either progressive or retrogressive — never stationary.

of learning is regarded as the necessary qualification for arriving at distinction of any kind. But the education is merely one of form and routine, in which the memory is the chief object of cultivation.

The *government* of China is an absolute and despotic monarchy : the emperor is regarded as the representative of deity, and as the supreme master of the lives and fortunes of his subjects. The whole theory of the government is based upon the exercise of paternal authority — the same implicit obedience being exacted from their inferiors, by superiors of every grade, as that yielded to parents by the junior members of a family. The different officers engaged in the administration of public affairs are styled *mandarins*, of whom there are nine grades ; their rank is not hereditary, but conferred by the emperor.

The laws of China are in general severe ; for trifling offences corporal punishment (with the bamboo) is universally inflicted, while serious crimes almost always meet with death. The most minute attention is exacted to a vast number of trivial forms and ceremonies, and almost every action of daily life is subjected to the keen supervision of the government authority. Upon the whole, it must be admitted that quietude, order, industry, and regularity, generally prevail throughout China ; but the vices of insincerity, falsehood, trickery, and mutual distrust, are found to be, in at least an equal degree, the characteristics of the Chinese people.

Gambling is a common amusement of the Chinese, and is universally practised by all classes. They are also exceedingly fond of theatrical entertainments. One of the most universal, and at the same time most unnatural, of Chinese practices is that of artificially compressing the feet of their female children. In consequence of this cruel custom, the women of China are distinguished by the smallness of their feet, to an extent which seriously impedes their power of motion, and is in reality a distortion—to say nothing of the suffering attendant upon the process by which the result is attained. These unnaturally small and crippled feet are, however, regarded as a mark of beauty by the Chinese.

The religion most prevalent in China is Buddhism,—here styled the religion of *Fo*,—but there is no system of worship publicly recognised by the government. There are, however, an immense number of ceremonial observances, and temples are everywhere erected to various idols, in whose behalf the most superstitious rites are practised. The Chinese have no sabbath, and no division of time by weeks ; but the occurrence of the full moon is connected with a religious festival styled the feast of lanterns, on which occasion every village (and indeed every house) is illuminated with paper lanterns, of gaudy colours. Attempts to extend the doctrines of Christianity in China, through the free circulation of the Protestant Bible, by means of missionary agency, are now in active progress.

(544.) *Industrial Pursuits*.—Agriculture is extensively practised by the Chinese, and the necessity of supplying food for the consumption of so large a population has rendered its pursuit an object of the greatest importance. The sides of the mountains are generally formed into terraces, and by means of careful irrigation, combined with the extensive use of artificial manures, every foot of ground that can possibly be made available for the production of crops is brought into use.

Rice is the kind of grain most generally grown throughout China, except in the north-western provinces, where it is replaced by wheat : the cotton-plant, tobacco, and sugar-cane, are very generally cultivated ; — the tea-plant is confined to particular districts. The mulberry is extensively reared, for the purpose of the silkworm. Very little of the land is devoted to pasturage, and animal food is not in general much used by the Chinese people, though the lower orders readily devour the flesh of dogs, rats, or indeed anything else that comes in their way — eating ravenously articles regarded as the merest garbage by Europeans.

The Chinese have attained great eminence in the manufacture of silk and porcelain — both of which are said to have originated with them. The making of cotton cloths (especially the kind called nankeen *), and also of lacquered wares, is very extensively practised, and the highest skill is displayed in the carving of ivory, tortoise-shell, mother-of-pearl, and other ornamental articles. They excel also in the arts of embroidery, dyeing, and the making of artificial flowers, and papers of fine tissue. In these, however, as in their social institutions, their present talent is imitative rather than original, and no improvement is attempted upon the methods of former ages.

In so far as the export trade is concerned, the foreign commerce of China is almost limited to the tea-plant, enormous quantities of which are supplied to other countries — Great Britain alone receiving more than 70,000,000 lbs. annually. Silk and nankeen stuffs, with porcelain, lacquered wares, ivory, and other ornamental works, are also exported, but not to any considerable extent.

The imports consist of manufactured cotton and woollen cloths, calicoes, and chintzes, from Britain and other European countries, and also from British India, — opium from the latter country, — and pepper, betel (or areca) nuts, camphor, sandal-wood, ebony, ivory, mother-of-pearl, with edible birds'-nests and tripang, from the Indo-Chinese countries and the islands of the East Indian Archipelago. Opium is smoked by nearly all classes, and is imported from British India to an enormous amount. The Chinese carry on a caravan-traffic with Russia by an overland route across the deserts of Central Asia, the Chinese and Russian traders meeting at the towns of *Maimatshin* and *Kiakha*, upon the common frontiers of the empires.

The internal traffic of China is enormous; great part of it is carried on by means of the rivers, which swarm with boats of all sizes and descriptions, and the intercourse between the different towns and villages is active and constant. The *Imperial Canal* runs through the plain of China for a length of 700 miles, and has hitherto constituted the great highway for the supply of the capital with rice and other necessities. But recent changes in the bed of the Hwang-ho (which has burst its bounds, and opened for itself a new outlet, far to the north of its former mouth) have destroyed a large portion of the canal. The roads are generally narrow, and not suited to vehicles of any magnitude.

Another great public work (though one of little real utility) is the *Great Wall* of China, which extends along the northern frontier of the

* From the city of *Nankin*, where this manufacture is extensively carried on.

country for a length of 1250 miles, and is carried alike over hills and valleys—its elevation varying from fifteen to thirty feet, with the character of the ground. It consists of an embankment of earth, faced with stones or bricks, and is generally fifteen feet wide at the top; at particular places it is strengthened by projecting towers. The Great Wall was built before the Christian era, and was intended to protect the country against the invasions of the Tartars; a large portion of it is now in ruins.

(545.) *Provinces and Towns.*—China is divided into eighteen provinces, all of large size. Of the majority of them, however, little more is known to Europeans than the names, since foreigners have rarely had the opportunity of penetrating any distance into the interior of the country. Many of the Chinese cities are very large and populous: they commonly present a gaudy appearance, the houses being covered with varnished tiles, or painted of brilliant colours. The streets are generally unpaved, but kept neat and clean, and the display of articles for sale in the principal shops is extremely showy and attractive.

Pekin, the capital of China (in the province of Pe-che-lee, at the north-eastern extremity of the kingdom), lies a short distance from the banks of the Pei-ho, and is said to contain 2,000,000 of inhabitants. It consists of two distinct portions, separated by a wall, and inhabited respectively by the Tartars and the Chinese: the former, or Tartar city, contains the imperial palace, which is of immense extent, and embraces magnificent gardens. About fifty miles below Peking, and on the right bank of the Pei-ho, is *Tien-tsin*, to which a united English and French squadron ascended in 1858.

Nankin (300,000 inhabitants) lies in the southern part of the great plain, on the right bank of the Yang-tsze-kiang, and is one of the principal seats of the silk, paper, and cotton manufactures. It was the former capital of the empire, and of much greater extent than at present. Nankin contains a celebrated porcelain tower, or pagoda. To the south-eastward of Nankin, near the lower course of the Yang-tsze-kiang and the southern portion of the Imperial Canal, are several large and populous towns; among these are *Soo-chow*, *Shang-hae*, *Cha-poo*, *Hang-chow*, and *Ning-po*. *Shang-hae*, situated at the entrance of the Yang-tsze, has become since the year 1842 (when it was first opened to European commerce) the emporium of a vast foreign trade, rivalling the importance of Canton in this regard. Its population probably exceeds 300,000.

Hang-chow is at the southern termination of the canal, and has upwards of 1,000,000 inhabitants. Several islands lie off this part of the Chinese coast; the largest of them, *Chusan*, was occupied by the English for several years after the war of 1841–2, but subsequently relinquished. The whole island is fertile and densely populated. *Fuh-chow*, on the river Min, considerably to the southward, and *Amoy*, on an island further to the south-west (both in the province of Fokien), are commercial cities of some importance.

Canton, on the lower course of the Choo-kiang river, is better known to Europeans than any other place in China, and was long the only port which foreign nations were allowed to visit, and the sole emporium of the tea trade. In the year 1842, on the conclusion of the war with Britain, the four ports of *Shang-hae*, *Ning-po*, *Fuh-chow*, and *Amoy*, were, with Canton, thrown open to intercourse with all nations. By the later treaty of 1858, concluded at *Tien-tsin*, several other ports were

declared free, and the whole of China was thrown open to foreign intercourse. Canton has upwards of 1,000,000 inhabitants.

Few of the towns in the interior are known to Europeans. The adjoining cities of Hang-kow, Hanyang, and Vou-chang, situated on the great river Yang-tze, at a distance of more than 600 miles above its mouth, were visited by an English squadron in 1858, and found to contain a much smaller population than previous statements had affirmed. A place called *Kin-te-ching* (or Kiaing tiht' chin), in Kiang-see province, situated a short distance east of the Poyang lake, is the chief seat of the porcelain manufacture, and is said to have upwards of a million of people engaged in its various processes.

(546.) The large island of *Formosa*, or *Tae-wan*, to the eastward of China, is divided from north to south by a range of high mountains. The western side of Formosa is in the possession of China, and produces immense quantities of rice and sugar: the town of *Tue-wan*, the capital, is on this coast. The east side of the island is chiefly occupied by independent tribes. Good coal has been found upon Formosa.

The island of *Hainan*, off the south coast, is also inhabited by rude tribes in its interior, which is rugged and mountainous; the northern portion of the island belongs to the Chinese. The *Ladrone Islands* adjoin the coast to the westward of the entrance to the Canton river, and derive their name from the numerous robbers and pirates of whom they are the resort.

Immediately opposite the entrance of the Canton river is a group of islands, the largest of which is called Lantau, and the next in size Hong-kong: the latter of these belongs to Great Britain.

(547.) HONG-KONG is an island of irregular form; in its greatest length, from east to west, it measures about nine miles; its breadth varies between two and five miles. Its area is about 30 square miles.

The greater part of Hong-kong is mountainous, the highest point reaching 1825 feet above the level of the sea. The mountains descend with a steep declivity towards the northern coast, and their bases nearly reach the sea-shore in that direction: the southern side of the island is less rugged, and contains some nearly level tracts, though of small extent. Water is abundant in the interior, whence deep ravines extend on every side towards the sea. The climate is hot during the summer (the mean temperature of July being 88°), but a considerable degree of cold is experienced during the opposite season of the year, and sudden changes in the condition of the air are not unfrequent. The s. w. monsoon prevails during the summer months, but the mountains shut out the northern coast from the benefits of its influence. During this season the air in the northern half of the island is unhealthy: the rains then fall in torrents, and the intense heat, acting upon a moist and undrained surface, raises abundant vapours, and causes the prevalence of malaria. The southern half of the island, which enjoys the advantages of the summer monsoon, is more generally healthy.

The population of Hong-Kong exceeds 70,000, the great majority of them Chinese. The trade of the island is considerable, the greater part of it being carried on with the ports of British India.

The town of *Victoria*, the capital of the settlement, lies on the north side of the island, and has a population of 13,000.

Hong-Kong has belonged to Britain since 1841: it constitutes a Crown

colony, under a governor who has a general superintendence over the British trade carried on at the five free ports of China, and is the head of their consular establishments.

(548.) MACAO, a small Portuguese settlement (of eight miles in circuit, with a population of 30,000—mostly Chinese), is situated on an island to the southward of Canton, and upon the left or western side of the entrance to the Canton river. Macao has belonged to Portugal for upwards of three centuries. It is regarded as one of the healthiest localities in south-eastern Asia, and its position gives it commercial importance.

(549.) The other countries included within the Chinese dominions are Tibet, Mongolia, Manchooria, and Corea. The three former of these are vast and thinly-inhabited regions, chiefly occupied by tribes whose habits are pastoral, and whose chiefs own in many cases only a nominal subjection to Chinese sway.

(550.) TIBET is situated to the west of China, and embraces the high plateau lying between the two great mountain systems of the Himalaya and the Kuen-lun, by the former of which it is separated from the low plains of northern Hindoostan. Tibet is altogether a highland region, intersected by narrow valleys and deep ravines, and containing numerous lakes and rivers. Among the former are the large lakes of Tengri-nor, Bouka-nor, and Palte; besides those of Rakas Tal and Manasarowar—of smaller size, and lying at an elevation of 15,200 feet. From the lake of Rakas Tal (or Rhawan) flows the river Sutlej, the course of which lies through a ravine of nearly 3000 feet in depth. Further to the north-west, the upper course of the Indus runs along the northern base of the Himalaya Mountains. But the longest river of Tibet is the Yarrow, or Sanpoo, which flows eastward through a deep valley, and the waters of which probably join the Brahmapootra.

The climate of Tibet is cold, and nearly all the industry of the people is devoted to pasturage. The Tibetans rear immense numbers of sheep and goats, and these—together with the yak (an animal of the buffalo kind), the musk-deer, and others—supply them with the materials alike for food, clothing, and commercial intercourse. The fine hair of the Tibetan goat (which is used in making the Cashmere shawls) is extensively conveyed across the Himalaya Mountains, as well as gold, tincal, musk, sheep-skins, and other produce of the country. Some of these articles are also supplied to China, and the manufactures of that country received in exchange.

Tibet embraces several distinct tribes and nations, all of which are subject to the *Talé-lama*, or high-priest of the Buddhist religion, whose residence is at Lassa. The whole country is under the nominal sovereignty of China, but the native institutions and laws are little interfered with, though in most cases subject to the direction of Chinese officers. All the civil and social arrangements of the Tibetans are connected with the Buddhist worship, and the priests of that religion (who are very numerous) are the aristocracy and rulers of the country.

Lassa (population 50,000), the chief town of Tibet, lies in an extensive

valley to the northward of the Sanpoo river, and upon one of its affluents ; it contains a vast number of temples, many of them richly stored with idols of gold and silver. Lassa has no wall, but is surrounded by garden suburbs. The streets are broad, well laid out, and clean, but the suburbs are extremely dirty. — *Shigatze*, further to the west, is a large town, and a kind of subordinate capital ; near it is Teshoo Loomboo, a convent of immense size, and the residence of a *lama* of secondary rank. Many of the other principal places are vast convents or temples rather than towns.

Gortope or *Gardokh*, in the western part of Tibet, on a tributary of the Upper Indus, is little more than a large camp, situated in a plain covered with flocks of sheep, goats, and yaks ; it forms in summer a great trading station for the merchants of the neighbouring parts of India.

(551.) To the westward of Tibet proper are the countries called **LADAKH** and **LITTLE TIBET**, which extend along the upper course of the Indus. These are wild mountainous regions, which terminate to the west and north in the high plateau of Pamer and the elevated tract in which the mountain-chains of the Kuen-lun, the Hindoo-Koosh, and the Beloor-tagh, seem to unite.

Leh, the chief town of Ladakh, stands in a narrow valley near the Indus (here called the Sing-kha-bab), and contains the palace of the native sovereign or rajah. It is the seat of some trade carried on with India, across the mountains.—*Iskardo*, in Little Tibet, is a small fortified town on the left bank of the Indus, to the northward of Cashmere.

(552.) **MONGOLIA** and **MANCHOORIA** are loosely comprehended under the general name of Chinese Tartary—a vast region which stretches from the 71st meridian eastward to the shores of the Pacific, and from the Great Wall of China on the south to the summits of the Altai Mountains on the north. But Mongolia proper is divided from Manchooria by the mountain-range of the Khin-ghan, which forms the eastern boundary of the great plateau (Art. 455).

The eastern portion of Mongolia includes the desert region of the Gobi, already described (Art. 457). The less sterile portions of this tract, as well as the plains and valleys to the northward, are covered with flocks of sheep and goats, together with herds of camels and vast numbers of horses and oxen. The western division of the country is known to the Chinese by the names of *Thian-shan Pe-loo* and *Thian-shan Nan-loo*,—or the tracts situated respectively to the north and south of the mountain-chain of the Thian-shan.

The more northern of these divisions—Thian-shan Pe-loo—includes the country of Soungaria, or Zungary, in which are many watered and fertile valleys. *Ele*, or *Gouldja*, the chief town in this territory, is a considerable place, with 50,000 inhabitants, situated on the banks of the river Ele, which flows into the large lake of Balkashi. Further to the eastward is the country of the Khalkas, in which are the towns of *Oulaisoutai*, *Ourga* (or *Kuren*), and *Maimatshin*. The last of these is situated to the southward of Lake Baikal, and immediately adjoins the Russian town of Kiakhta, on the opposite side of the frontier. Besides the Khalkas, many hordes of the Kalmucks, and other nations belonging to the Mongol race, wander in these elevated regions.

(553.) *Thian-shan Nan-loo*, to the south of the mountain-chain, is also known by the name of Little Bukharia, and embraces the extensive territory watered by the course of the river Erghen or Tarim, which flows

eastward into the lake of Lop (Art. 458). In this region are many large commercial towns, the inhabitants of which, by means of caravans, are the agents in an extensive interchange of the productions of Eastern and Western Asia. But the frontiers are everywhere strictly guarded by the Chinese authorities, and no one is allowed to pass their limit without the imperial permission.

The town of *Cashgar*, on a river of the same name, near the western frontier, has a population of forty or fifty thousand, with important manufactures of gold and silver cloths, cotton, silk, and carpets, and lies in the midst of a fertile district.—*Yarkand*, further to the south-east, is a still larger city, and is the residence of the Chinese governor of the province.—*Khoten*, or *Ilitsi* (s. e. of Yarkand), is also a large and populous town.—*Aksu*, *Kouché*, *Toursan*, *Hami*, and other towns, are situated on the line of caravan-route which runs to the eastward of Cashgar, through the heart of Central Asia.

(554.) The Mongol nations are divided into numerous tribes, or clans, each under the government of its own chief. It is only in the settled parts of the country that the Chinese authorities exercise any real sway: in the more open and upland tracts the tribes are in reality independent, and the Chinese government is often obliged to purchase their submission, and the preservation of peace, by the payment of a tribute. The Mongols depend for their subsistence upon their flocks and herds, and live principally on milk, butter, and cheese, together with mutton; upon occasions of necessity they eat also the flesh of the camel or the horse. For convivial purposes they drink the milk of the mares, fermented into a liquor called *koumiss*, but tea is the beverage in ordinary use. Their habits are rude and warlike: indeed the whole country constitutes a nursery of soldiers, and is a nucleus from which at various times hordes of marauding and conquering tribes have issued, and laid waste the surrounding nations.

The Buddhist worship, under the name of Shamanism, generally prevails in Tartary; but, in the western portion of the territory, Mohammedanism is followed in some of the cities. There is a general ignorance of letters and the politer arts, but the Mongols are usually kind and hospitable in their manners, and their frank and open disposition contrasts advantageously with the insincerity of the Chinese and Hindoos.

(555.) The inhabitants of Manchooria are of a different race from the Western Tartars, and belong to the Tungoosian family of nations. They are of more settled habits, and practise agriculture in those parts of the country which are suited for its operations. Oats are the most general object of cultivation, but wheat, hemp, cotton, peas, rhubarb, and a medicinal herb called *ginseng*, are also produced. The great river Amour, which flows through Manchooria, might afford the means of extensive inland commerce; the tract to the northward of this stream has been ceded to Russia, and the Russian settlements extend along the eastern coasts of Manchooria for some distance beyond the mouth of the river, to the southward. Manchooria was the original seat of the present reigning family of China, by whom that country was conquered in 1640. The Manchos are in general followers of the Buddhist religion.

Leaotong, the southern province of Manchooria, is the most populous portion of the country, but the greater number of its inhabitants are

Chinese. Its chief town is *Moukden*, or *Chin-yang*, on a river which falls into the Gulf of *Leatong*. To the northward of *Leatong* is a desert tract which resembles the Gobi, and is inhabited by wandering Mongols. The other divisions of *Manchooria* are scarcely known to Europeans. The whole country appears to be thinly inhabited, but is believed to contain many fertile tracts. The cold of winter is severe, and the ice at the mouth of the *Amour* does not break up until an unusually late period of the year.

(556.) *CORREA*, an extensive peninsula which lies between the Yellow and Japan Seas, is a separate kingdom, under its own native sovereign, but tributary to China. A chain of mountains runs through the peninsula from north to south; these are covered with forests, and the more open parts of the country are said to supply abundant vegetable produce, including rice, hemp, tobacco, and ginseng. But the Koreans exceed even the Chinese in their jealousy of strangers, and their country is in consequence but little known. The capital is *King-ki-tao*, in the centre of the peninsula.

(557.) The *Loo-choo Islands*, a group situated to the north-eastward of *Formosa*, and about four hundred miles distant from the coast of China, are exceedingly fertile. The people are a mild and inoffensive race, under a native sovereign, who owns a nominal subjection to the Chinese emperor. The largest island of the group is called the Great *Loo-choo*, upon which is situated the town of *Napakiang*, the capital. To the northward of the *Loo-choo* group is *Sulphur Island*, from which sulphuric vapours are constantly emitted.

SECTION VIII.—TURKESTAN.

(558.) *Boundaries and Extent*.—Turkestan, or Independent Tartary, is bounded on the north by Siberia, on the east by Chinese Tartary, on the south by Afghanistan and Persia, and on the west by the Caspian Sea and the river *Ural*, which divide it from European Russia.

(559.) *Natural Features, Climate, &c.*—The greater part of Turkestan is an immense plain, with a gradual slope towards the sea of *Aral*, into which its two principal rivers—the *Amoo* and the *Sihoon*—both discharge their waters. But the south-eastern and eastern portions of the country, which adjoin the plateaus of Tibet and Afghanistan, are penetrated by advancing spurs from the *Hindoo-Koosh*, the *Beloor-tagh*, and other mountain-ranges of Central Asia, and exhibit a diversified surface. These parts of Turkestan contain many watered and fertile valleys, in which the various productions of the soil are abundant; elsewhere cultivation is limited to the immediate banks of the larger rivers, a considerable portion of the country being altogether desert.

The river *Amoo* (ancient *Oxus*), one of the two principal rivers of Turkestan, flows from the small lake of *Sir-i-kol*, situated among the mountains which border the plateau of *Pamer*, and lying at an altitude of

15,600 feet above the sea. The Amoo is navigable for great part of its course, but all its upper portion is frozen over in winter, and even its lower part in severe seasons : near its mouth it forms a swampy delta, overgrown with reeds, through which its various branches reach the sea of Aral. A branch of the Oxus (and perhaps the main stream of the river) flowed anciently into the Caspian Sea, and portions of its deserted bed may yet be traced at intervals across the intervening desert.

The Sihoon, or Sir (ancient *Jaxartes*), flows from the mountains of the Mooz-tagh or Thian-shan system, and is formed by two principal branches. It is a more rapid stream than the Amoo,—fordable in summer, but frozen over during the winter. The river *Zerafshan*, or *Samarcand*, flows from east to west, and terminates in the small lake of Kara-koul, a short distance from the right bank of the Oxus. Most of the other streams terminate in inland lakes or marshes, the waters of which are salt.

Among the native productions of Turkestan are rubies and lapis lazuli, mines of which occur in the district of Budukshan, in the south-eastern corner of the country. The climate exhibits great extremes of heat and cold; and violent storms, accompanied by whirlwinds or tornadoes, are of frequent occurrence in the open steppes and deserts. The atmosphere, however, is generally dry and healthy. Wild animals, including deer, antelopes, foxes, wolves, jackals, and bears, together with the leopard, the tiger, and the wild hog, are numerous. Bats, tortoises, and lizards, are found in the deserts; scorpions are common, but comparatively harmless.

(560.) *Inhabitants*.—The population of Turkestan is very various. The most numerous race are a people called the *Uzbeks*, of Tartar origin, and most of whom lead a wandering life. The *Taujiks*, who form the bulk of the fixed population (and are probably descended from the aborigines of the country), resemble the people of Europe in their general appearance and their habits of industry. Besides these, there are Turcomauns, Kirghiz, Arabs, Persians, Afghauns, Jews, Gypsies, and many other races.

The Turcomauns inhabit the south-western portions of Turkestan, and the tracts between the Caspian and the Sea of Aral, which are hence called by the name of *Turcomania*. They are entirely a nomadic people, addicted to war and plunder, and divided into tribes who acknowledge only the sway of their own chieftains. The wandering inhabitants of Asia Minor (Art. 468) came originally from this region.

The *Kirghiz* tribes, who are divided into three great hordes,—distinguished as the Great, Middle, and Little Horde,—are found in the northern parts of Turkestan and the adjacent steppes of the Siberian plain, but are chiefly (if not entirely) within the Russian frontier. The Kirghiz are of pastoral and nomadic habits, shifting their abodes from place to place with the different seasons.

The total population of Turkestan is perhaps from six to eight millions. In religion the great majority are Mohammedans, of the Soonite or orthodox persuasion. Mosques are numerous in all the principal towns, and

the Kurán (or Mohammedan bible) forms the great text both of their law and education, and is the universal authority upon all questions, whether of a civil or religious nature.

(561.) *Industrial Pursuits.*—Agriculture is pursued in the tracts susceptible of cultivation, and rice, wheat, barley, and other grains, besides cotton, hemp, flax, and linseed, are among the articles of its produce. Fruits are generally abundant, and particularly so in Bokhara, which is famed for its melons and its grapes. The mulberry is very extensively reared, and silk is produced in great abundance along the banks of the Oxus, and in other watered tracts. Hemp is used for the purpose of extracting oil from its seeds, and for making an intoxicating liquor called *bang*. Tobacco and wild rhubarb are grown in some places, and vegetables are generally abundant.

But the numerous domestic animals are a more important source of wealth, especially the sheep and goat. The sheep furnish valuable skins, and many of them possess a black curly fleece, used in Persia for making caps; about 200,000 skins are annually exported for this purpose from Bokhara alone. The goats supply a fine hair, or wool, which is exported to India, and made into shawls, only inferior in quality to those of Cashmere. The two-humped camel is numerous: the ass is large and strong, and is used both for the saddle and as a beast of burthen. The Tibetan *yak*, or mountain-cow, is found in the mountainous districts, and though of small size (about 3½ feet in height), is sometimes placed under the bridle. The Turcomauna, Khirghiz, and other wandering tribes, possess numerous horses, for which they entertain the same affection as the Arabs and other people of similar habits.

There are few *manufactures*, but some silk and cotton-stuffs are made in the towns, and also sabres, knives, and other weapons. The arts of dyeing and of tanning are likewise practised.

The *commerce* of Turkestan is considerable, and is aided by the geographical situation of the country, which makes it the common field of interchange for the productions of China, India, Persia, and Russia, through which latter country most of the articles of European manufacture pass. There is also an extensive caravan-traffic with India by way of Afghanistan, through the medium of which various goods of British manufacture find their way into this part of Asia (Art. 491).

The exports of Turkestan are cotton, corn, wool, fruits, sheep and lamb skins, and silk, —the latter chiefly to India and Caubool. The imports are muslins, brocades, turbans, and shawls, with indigo, sugar, and British manufactured goods, from India;—porcelain, tea, and silk-goods, from China;—and various articles of European manufacture (including many of British workmanship) from Russia.

(562.) *National Divisions: Towns.*—Turkestan is divided into several independent states, or *Khanats*, in each of which the ruler is styled the Khan, or Emir. The three principal Khanats are those of BOKHARA, in the south,—KHIVA, in the middle,—and KOKAUN, in the east.

The Khanat of Bokhara extends over the middle course of the Amoo, and includes also the fertile valley of the Zerafshan. Its capital, *Bekhara* (about 70,000 inhabitants), near the south bank of the latter stream, is a large town, situated in the midst of a flat country, and embosomed in gardens and orchards. It has numerous bazaars, each appropriated to particular articles, and is a considerable emporium of traffic.—

Samarcand, on the same river, further to the eastward, a town of great antiquity and formerly very flourishing, is now partly in ruins, and has only 10,000 inhabitants.—*Balkh*, situated in the plain to the southward of the Amoo, is likewise a decayed city, mostly in ruins.—*Merve* (or *Meru*), some distance to the north-west, has been desolated by the Turcomauns, and has now scarcely any fixed inhabitants.

To the south-eastward of Bokhara is Koondooz, the seat of an independent Khanat, which, besides the territory of Koondooz, comprises also the province of Budukshan, a wild mountain-region lying along the upper course of the Amoo and its tributaries.—*Koondooz*, the capital of the khanat, is only a small place.—*Khoulom*, further to the s. w., has 10,000 inhabitants.—The town of *Budukshan*, or *Fyzabad*, is now in ruins.

The territory of *Khiva* embraces the lower course of the Amoo, and the southern shores of the sea of Aral, but by far the greater portion of it is desert. The town of *Khiva*, which stands on a branch of the Amoo, has only from 10,000 to 12,000 inhabitants, but is the seat of some caravan-traffic; it is also a considerable slave-market.—*Urghendj* (12,000 inhabitants), to the north-eastward of Khiva, on a canal derived from the Amoo, is likewise a place of some trade.

KOKAUN, or FERGHANA, includes the territory lying along the upper and middle course of the Sihoon and its affluents. Its capital is the town of *Kokau*, on the south bank of the Sihoon, with about 70,000 inhabitants: lower down the river is the fortress of *Kojend*.—*Tashkend*, a large town further to the northward, on a little tributary of the Sihoon, has extensive plantations of the cotton-plant and the mulberry.

(563.) All the governments of Turkestan are despotic. The khans, or emirs, of the different states frequently engage in warfare, and the wandering tribes in the outskirts of the country make marauding incursions into the neighbouring states, laying waste the villages and carrying off the inhabitants, whom they sell as slaves in the markets of Khiva, Bokhara, and other towns. The northern provinces of Persia, and the Russian territories which border on the Caspian, have frequently been harassed in this manner, and the subjects of Persia are found in a condition of slavery in all the towns of Turkestan.

SECTION IX.—ASIATIC RUSSIA.

(564.) Asiatic Russia consists of two distinct parts,—1st, *TRANSCAUCASIA*, or the countries to the southward of Mount Caucasus;—and 2nd, *SIBERIA*. The former portion is of much smaller extent than the latter territory, but derives importance from its position on the frontiers of Europe and Asia, and the fact of its bordering upon the provinces of the Persian and Turkish empires.

1. TRANSCAUCASIA.

(565.) *Boundaries and Extent*.—The Caucasian provinces of Asiatic Russia are situated upon the isthmus which lies

between the Caspian and Black Seas. These seas form the eastern and western boundaries of the territory, which extends from the summits of Mount Caucasus on the north to the frontiers of Persia and Asiatic Turkey upon the south. The provinces embraced within the limits here described consist of Abassia, Mingrelia, Imeritia, Georgia, Shirvan, and a portion of Armenia. Georgia is by much the most extensive of these, and includes more than half the entire territory.

(566.) *Natural Features, Climate, &c.*—**ABASSIA** is a narrow and rugged territory which extends along the north-eastern shores of the Black Sea; it is fertile, and produces abundant crops, besides possessing numerous herds of cattle. Its subjection to Russia is little more than nominal, and great part of the province is still in the possession of independent and warlike tribes of mountaineers.

MINGRELIA and **IMERITIA** lie further to the southward, along the course of the river Rion, or Phaz (the ancient "Phasis"), which falls into the Black Sea, near its eastern extremity. Mingrelia borders on the sea,—Imeritia lies further inland. Both are fertile territories; the climate of the low plains near the mouth of the Rion is moist and unhealthy, and great part of the country is covered with thick forests.

GEORGIA, a territory of about 18,000 square miles in area, lies to the south of the central portion of the Caucasus, and embraces the middle part of the valley of the Kour. It is chiefly a hilly region, possessing great variety of surface, and a large portion of the ground is covered with forests. All the streams by which it is watered belong to the basin of the river Kour, which flows into the Caspian Sea.

SHIRVAN lies to the eastward of Georgia, and extends to the shores of the Caspian. It is for the most part a fertile and well-watered plain, and includes the lower part of the basin of the Kour.

RUSSIAN ARMENIA lies to the southward of Georgia (from which it is divided by a range of elevations called the Kapan Mountains), and extends to the banks of the river Aras, the chief tributary of the Kour. A small part of the province (in the south-west) projects beyond the Aras, and includes the high mountain of Ararat, or Agri-dagh, which is covered with perpetual snow (Art. 455). The whole of Armenia is an elevated plateau, the general features of which have been already described (Art 467).

The large fresh-water lake of Goukcha, or Sevan (sometimes also called the lake of Erivan), is situated within the Russian portion of this territory, and is connected with the river Aras by the stream of the Zengui. Its surface is 5300 feet above the sea, and its depth exceeds 400 feet.

All the Trans-caucasian provinces, and especially Georgia, exhibit great extremes of climate,—the summer and winter temperatures presenting the most remarkable contrasts of heat and cold. This is the case to an excessive extent upon the high plains of the Armenian plateau. The mean temperature of the year is, however, moderate, and the country generally healthy.

(567.) *Population.*—The above countries are thinly inhabited. The total population of Transcaucasia is estimated at 2,648,000.

The people belong to the Caucasian family of nations, and are much celebrated (especially the females) for their personal beauty. Owing to this latter circumstance, the countries bordering on the Caucasus have from the earliest ages been resorted to by surrounding nations, for the purpose of procuring slaves to supply the wants and gratify the luxury of Oriental potentates. Prior to their subjection to Russia (which dates only from the commencement of the present century), the people of Georgia and the adjacent territories were divided into the two classes of nobles and serfs, the relationship between whom resembled that which prevailed between the baron and his dependent vassals during the feudal ages of Europe,—the nobles being absolute masters of the lives and fortunes of their followers, and affording them a certain amount of protection in return. Russian influence has repressed the extreme power of the nobles, and has checked the supply of the slave-market, substituting in their place the stern despotism of military rule. The presence of a large standing army is required in order to maintain tranquillity ; in the mountainous districts, indeed, many of the native tribes are practically independent, and regard the Russian sway with an equally intense hatred as their brethren on the northern side of the Caucasian frontier (Art. 366).

The majority of the people of Georgia are Christians, and followers of the Greek Church, but most of the mountain-tribes profess the Mohammedan faith. Throughout these territories all classes are exceedingly ignorant, in so far as letters and the politer arts are concerned.

(568.) *Industrial Pursuits*.—These are all in a backward state. Agriculture is only pursued to a limited extent, though the soil is in general fertile, and yields several kinds of grain (including rice), besides abundance of fruits—especially in Georgia, where the vine and the mulberry are both extensively produced. Considerable crops of cotton, rice, wheat, and other grains, besides fruits, are raised in Shirvan. The domestic animals are abundant, and the sheep supply excellent wool ; wild animals (including the stag, antelope, wild-boar, wild-goat, and others) are numerous in the forest districts.

The few manufactures are limited to coarse fabrics for articles of domestic use and clothing, with leather, shagreen, sabres, and fire-arms. The commerce consists in the export of wine, silk, skins, furs, honey, and cattle, in exchange for arms, salt, and European manufactured goods. The amount of this traffic is now inconsiderable ; in former times it was much more extensive. Tiflis, in Georgia, was once a great mart for the interchange of the productions of the Eastern and Western Worlds, and the great thoroughfare for the overland commerce of Europe and Asia.

(569.) *Towns*.—*Tiflis* (30,000 inhabitants), the capital of Georgia and the seat of government for the Trans-caucasian provinces, stands on the right bank of the river Kour. The great road which crosses the chain of Mount Caucasus, through the pass of Dariel (Art. 30), commences here, and proceeds up the valley of one of the tributaries of the Kour until it enters the mountain-region.

Erivan (11,000 inhabitants), in Russian Armenia, lies in the plain which extends from the northern foot of Mount Ararat, and is on the bank of the river Zengui, a small tributary of the Aras. The adjacent hills and valleys are covered with the vine and other fruits, but the

country in the more immediate neighbourhood of Ararat consists of a parched volcanic soil, in which nothing is to be seen but currents of black and gray lava, with basalt, pumice, scoria, and other evidences of subterranean action. In 1840 this region was visited by a tremendous earthquake, which shattered part of the mountain and diminished its elevation.

The small town of *Baku*, in Shirvan, stands on the shore of the Caspian; the soil in its neighbourhood is completely saturated with naphtha, which issues both from natural crevices and wherever a hole is bored, and readily burns on the application of fire. Sulphureous vapours likewise issue from the ground, and give evidence of the continued action of subterranean heat.

Kutais, on the bank of the river Rion, and *Poti*, at the mouth of the river, are small towns in Imeritia and Mingrelia. The fortresses on the coast of Acassia, along the eastern shore of the Black Sea, were voluntarily destroyed and abandoned by the Russians during the Anglo-French and Russian war of 1854, 5.

2. SIBERIA.

(570.) *Boundaries and Extent.*—Siberia, a vast country of Northern Asia, is bounded on the north by the Arctic Ocean; on the east by the Pacific; on the south by the Chinese Empire and Turkestan; and on the west by European Russia. The Altai Mountains divide it on the south from the regions of Chinese Tartary, and the Ural Mountains separate it on the west from Russia in Europe: between these two mountain systems are the extensive levels of the *steppes*, which stretch from the south-western portion of the Siberian plain to the shores of the Caspian and Black Seas.

From the Ural Mountains on the west to Behring's Strait on the east, Siberia stretches for a length of 3600 miles, and its extreme breadth from north to south exceeds 1800 miles. Its superficial area is probably not less than four millions of square miles.

(571.) *Natural Features, Climate, &c.*—Siberia is a vast plain, sloping towards the Arctic Ocean, and watered by numerous rivers which flow in that direction. Among these are the Obi, the Yenesei, Khatanga, Olenek, Lena, Iana, Indigirka, Kolyma, and numerous others: the Obi, Yenesei, and Lena are among the principal rivers of Asia (Art. 458). The Anadir flows in an easterly direction, into the Gulf of Anadir—an inlet of Behring's Sea,—and belongs to the basin of the Pacific.

The northern part of the Siberian plain spreads into the desert swamps of the *tundra*, and its south-western portion

contains extensive steppes and numerous salt-water lakes. Among the northern offshoots of the Altai Mountains is the great fresh-water lake of Baikal (Art. 459), the country around which presents a more diversified surface than any other part of Siberia.

The climate of Siberia is intensely severe (Art. 461). But this cold and generally barren country supplies two kinds of natural produce, for the sake of which all its disadvantages are endured, and in pursuit of which the perils of its vast and almost solitary wastes are cheerfully encountered. These are *metals*, and *furs*, which together constitute its native wealth, and combine to render its possession of the highest value to the Russian Crown.

The mines occur both upon the eastern side of the Ural Mountains, and among the northern and north-western offskirts of the Altai system. Gold is supplied by those in the former locality (Art. 60), and both gold and silver are extensively worked in the latter region. The quantity of gold supplied by the more distant mines of Siberia has been steadily increasing for many years, and has of late been greater than that furnished by any other country in the globe, with the exception of Australia and California. The chief gold-producing districts lie among the hills which separate the upper courses of the three great rivers—the Obi, Yenesei, and Lena,—embracing especially the valleys watered by the smaller tributaries of the two former streams. These tracts have for some years supplied annually a quantity of gold equal in value to 3,000,000*l.* sterling. Silver, combined with gold, and in some instances with lead-ore, is found throughout the above localities, and more particularly in the district of Daouria—to the eastward of Lake Baikal. Iron, copper, malachite, and many other metallic and mineral substances (including asbestos and talc, besides porphyry, jasper, and other valuable stones), are also found abundantly in various parts of Siberia.

The numerous fur-bearing animals of this portion of the globe have been mentioned in Art. 464. Their skins are an eager object of pursuit to the Russian hunters, and vast numbers of them are collected by the native tribes, and paid as tribute to the Russian government. The avidity with which the animals most valued for their skins are pursued has gradually driven them further and further to the eastward; and the more eastern parts of Siberia, with the archipelago of the Aleutian Islands and the neighbouring shores of the American continent, are now among the most frequented haunts of this traffic. Both the seal and the whale fisheries are pursued upon the coasts of Behring's Sea and the adjacent islands.

(572.) *Population*.—The whole of this immense region is supposed not to contain more than two millions of inhabitants. Many of these are Russian exiles (or their descendants) who have been banished hither and compelled to work in the mines, as a punishment for political or other offences. They are under the charge of a military force, and occupy principally the tracts of country immediately to the east-

ward of the Ural mountains, and those situated in the neighbourhood of Lake Baikal. It is estimated that not fewer than 10,000 exiles enter Siberia annually. They are divided into five classes, those condemned for the highest offences being sent to the eastern and more distant portions of the country.

The less settled portions of Siberia are occupied by a great number of different tribes, many of them of Tartar or Mongol descent, and displaying the wandering habits common to that family of nations. The *Calmuks* and the *Bouriats* (both of Mongol blood) dwell in the southern part of Siberia, along the skirts of the Altai Mountains. The *Tunguses* spread over the country to the east of the Yenesei, and have a common origin with the Manchoo Tartars. The *Woguls*, *Ostiaks*, and other tribes in the west and north-west of Siberia, belong to the same race as the Finns of Europe; and the *Samoiedes*, who dwell along the shores of the Northern Ocean, belong perhaps to the same great family.

In the most eastern parts of Siberia are the *Yakoots* (along the lower course of the Lena), the *Yukagirs*, the *Koriaks*, the *Tchoukchi*, and other tribes, besides the *Kamschatdales*, or inhabitants of the peninsula of Kamschatka. All of these are people of wandering habits, and find their chief employment in hunting and fishing, by means of which they acquire in summer a sufficient stock of provisions to provide for their subsistence during the long and dreary season of winter. Many of them possess large herds of reindeer. The *Tchoukchi* and other tribes in the extreme eastern parts of the country are in a low and degraded condition of life, dwelling in winter in huts buried below the surface of the ground, with only a single aperture for the admission of light and air. Their summer residences are merely huts rudely formed of the trunks of trees, with a covering of bark.

Some of the wandering nations in the west of Siberia profess the Mohammedan religion, but the greater number of the native tribes are followers of Shamanism, or the doctrines of Buddhism—combined with the grossest idolatries and the most superstitious practices. The *Samoiedes*, *Tchoukchi*, and other distant tribes, are generally Pagans, though some of them have been baptized and nominally converted to Christianity. The belief in witchcraft and magic (the latter of which is practised by the native shamans or priests), and the fear of evil spirits, are commonly prevalent; among the *Ostiaks* and *Samoiedes* the bear is an object of superstitious veneration, prayers and sacrifices being even offered to it.

(573.) The chief *industrial pursuits* of the people of Siberia are those connected with mining operations. There are imperial foundries, and establishments for polishing jasper into vases and other works of art, as well as for cutting and engraving precious stones, at several places in the principal mining districts. Great attention is bestowed by the Russian government upon works of this kind throughout the empire.

The soil and climate of the greater part of Siberia unfit it for the labours of agriculture, but in the districts around Lake Baikal both corn and the hardier fruits (as the gooseberry and cherry) are raised, as well as the potatoe and other vegetables. Wheat flourishes in the southern tracts of Western Siberia, but barley, rye, and oats, are the more common articles of growth, and these succeed as far north as the 60th parallel, and even (in particular localities) still further north.

In the eastern half of Siberia, the 55th parallel is the more general limit. The great rivers flow in many parts through dense forests of alders, willows, elms, maples, poplars, aspens, and pines; and during the short summer of these regions numerous wild flowers cover the surface of the ground.

An extensive traffic is maintained between Russia and China by the Siberian traders, though it is limited to a single point on the frontier line — the town of Kiakhta, adjacent to that of Maimatahin, on the Chinese side of the boundary (Art. 552). But the Russian merchants traverse the greater part of the distance between Tobolsk (in Western Siberia) and Kiakhta by means of the rivers. Furs, skins, leather, and fossil ivory, are exchanged at Kiakhta for the tea, silk, porcelain, musk, rhubarb, and other articles of Chinese produce (Art. 356). The native tribes barter their furs to the Russian traders in exchange for tobacco, hardware, cutlery, beads, and toys,—this interchange being carried on at fairs held for the purpose in the principal native villages.

(574.) *Provinces, Towns, &c.*—The whole of Siberia forms two grand governments—distinguished as Eastern and Western Siberia, each of which includes several smaller governments. The towns are few, and dwindle into mere villages towards the northern parts of the country, where, indeed, they consist only of a few dwellings, scattered at wide intervals apart.

Tobolsk (15,000 inhabitants), the largest town in Western Siberia, and the chief centre of its commerce, lies on the river Irtysh, at the junction of the Tobol with that stream. Like nearly all the other towns in the country, it is built almost wholly of wood.—*Irkutsk* (to the s. w. of Tobolsk) is situated upon the east slope of the Ural Mountains, in the midst of the mining district, and contains some imperial foundries and other works, besides a college of mines: it has 10,000 inhabitants.—*Bereznov*, on the Obi, in a cold and dreary region, 400 miles to the north of Tobolsk, forms one of the many places of exile which Siberia contains.

The town of *Omsk* (11,000 inhabitants), which ranks as the political capital of Western Siberia, lies on the river Irtysh, above Tobolsk, and at the junction of its tributary the Om.—*Kolyvane*, a small district town on the upper Obi, is further to the eastward.—Still further east are the towns of *Tomsk* (9000 inhabitants), on the river Tom, an affluent of the Obi; and *Krasnoyarsk*, on the Yenesei. The towns of Kolyvane, Tomsk, and Krasnoyarsk, are all situated on the high road between Tobolsk and Irkutsk. — *Barnaul*, to the south of Kolyvane, lies in the heart of one of the principal mining districts of the Altai.

Irkutsk (18,000 inhabitants), the capital of Eastern Siberia, and the best-built and handsomest town in the country, lies on the right bank of the Angara, a short distance below its outlet from Lake Baikal. The houses are chiefly of wood, but the streets are wide and spacious, the public buildings striking, and the shops well stored with Chinese and other merchandise. Irkutsk is, indeed, the centre of such refinement as Siberia possesses.—*Selenginsk*, a small town on the river Selenga, which flows into lake Baikal from the southward, is in the heart of the Bouriat country.—*Kiakhta*, further to the south, upon the Chinese frontier, has been already mentioned.—*Nertchinsk*, further eastward,

on one of the upper branches of the Amour, is situated in the midst of silver and lead mines.—*Yakutsk*, in the more northern part of the country, on the left bank of the Lena, has only 4000 inhabitants, but is a great centre of the fur trade.

Okotsk, a small commercial port and naval station, stands on the coast of the Sea of Okotsk, upon the further side of the Asiatic continent. The port of *Aian* is on the same line of coast, 250 miles to the s. w. of *Okotsk*. Thence to the southward, the Russian dominion extends over the course of the great river Amour, including the portion of Manchooria which lies to the north of that stream. The northern half of the large island of Sagalien also belongs to Russia.

The fortified port of *Petropaulovski* lies at a still further distance to the eastward, upon the coast of Kamschatka; its inhabitants carry on some trade with the Russian settlements in America and the neighbouring Kurile Islands. The peninsula of Kamschatka is traversed from north to south by a high chain of mountains, among which there are several volcanoes (Art. 455). The native inhabitants are a people of short stature, and dirty in their habits: they live chiefly by hunting and fishing; they are, however, but few in number, and the trade is carried on by the Russian settlers.

SECTION X. — JAPAN.

(575.) *Boundaries and Extent.*—The EMPIRE OF JAPAN consists of an extensive group of islands situated to the eastward of the Asiatic continent. Upon the west, the Japanese Archipelago is divided from the mainland of Asia by the Sea of Japan; on the other sides it is washed by the open expanse of the Pacific Ocean.

Japan embraces the large islands of Nippon, Sikokf, Kiusiu, and Jesso, besides a great number of less size, and is estimated to include a total area of about 160,000 square miles—or nearly twice the area of the island of Great Britain.

(576.) *Natural Features, Climate, &c.*—All the Japanese islands are mountainous, and some of the summits in Nippon (the principal island of the group) are said to be 12,000 feet in elevation. There are several active volcanoes on this island, and the whole archipelago is liable to the frequent occurrence of earthquakes. The climate is distinguished by great extremes of summer and winter temperature, but is generally healthy and temperate.

Japan is very rich in mineral produce,—gold, silver, copper, iron, and tin, being all found there; its copper, especially, is of the finest quality. Its natural vegetation includes most of the productions of the neighbouring continent, as well as a vast number of flowering plants many of them distinguished by great beauty. Oaks, firs, and cypresses, are

common, and there are the gum-varnish tree, the camphor-tree, the black and white mulberry, and a vast number of others. Timber is more abundant in Jesso than in the other islands, where the extensive cultivation of the land has been attended with a greater clearance of wood.

Among the wild animals are bears, boars, foxes, dogs, monkeys, hares, rats, mice, and weasels. The domesticated species are the ox, buffalo, horse, hog, common fowl, and duck. Fish abound in the lakes and rivers, and constitute, together with rice, the common food of all classes. The Japanese religiously abstain from eating the flesh of animals.

(577.) *Inhabitants.*—The population of Japan is probably not less than twenty-five millions, though nothing precise is known upon this head. The Japanese bear some resemblance to the people of China, and, like them, are supposed to belong to the Mongolian family of nations. Upon the whole, they appear to be a people possessed of considerable powers, both physical and mental, and if naturally inferior to the Chinese in ingenuity and skill, they are perhaps superior to them in spirit, energy, and sense of independence.

The language of Japan differs materially from that of China, and is polysyllabic. The Japanese practise the arts both of writing and of printing, and possess a literature which embraces works on medicine, botany, astronomy, and other subjects : but in all of these their standard of attainment is inferior to that of the Chinese, and their civilisation is of much more recent date.

The government of Japan is a strict despotism, and is maintained by military authority : the nobles, however, are possessed of considerable power, and the greatest possible deference is paid to hereditary rank. The nobility form a kind of feudal aristocracy, and are entrusted with the government of the different provinces of the country. Besides the emperor, or civil ruler, there is also an ecclesiastical ruler (styled the *dairi* or *mikado*), whose authority extends over all matters concerning religious affairs or education : his influence, however, is quite subordinate to that of the emperor. The people are divided into several different classes or *castes*, each confined to particular pursuits and occupations.

The laws of Japan are exceedingly severe and sanguinary, and human life is held in trifling regard. Many of the punishments inflicted are of the most barbarous character, and death is in many cases the penalty even of trivial offences. The authorities are (in even a higher degree than those of China) jealous of intercourse with foreigners, and the people are forbidden, under the severest penalties, to leave their native country.

In religion the Japanese are divided into numerous sects—said to amount to thirty-five in number. The greater portion of the people appear, however, to be followers of the Buddhist worship : temples and pilgrimages, accompanied by a variety of superstitious practices, are very nu-

merous, and many animals (as the dog and cat) are regarded as sacred. Like the people of China, the Japanese observe no Sabbath, but keep as fasts certain days connected with the age of the moon. Christianity was at one period (during the first half of the 16th century) extensively introduced into Japan by the agency of Portuguese and Spanish missionaries, but these were subsequently expelled, and their doctrines entirely uprooted from the islands.

(578.) *Industrial Pursuits.*—The Japanese are diligent cultivators of the soil, and subsist principally upon its produce. Rice, barley, and wheat, are the grains chiefly grown, and the former is the most general article of food. The cotton-plant is extensively cultivated in the southern provinces of the empire; the tea-plant is largely grown, but in a less careful manner than in China, and its produce is of inferior quality. Tobacco is very generally raised, and is extensively used: the mulberry is also cultivated on a considerable scale, and the silk-worm affords one of the staple products of the country.

In most branches of manufacturing skill the Japanese are little inferior to the Chinese, and in some respects they even surpass that busy and ingenious nation. The Japanese make silk and cotton fabrics to a sufficient extent to supply most of the internal consumption of the country, and their porcelain is of very fine quality and highly esteemed. The art of *japaning* (or covering metals with varnish) derives its name from this country, and is practised with the greatest skill. Some of the Japanese lacquer-work is exquisitely beautiful, alike in design and colouring. Their works in copper, iron, and steel, also exhibit great ingenuity, and the making of telescopes, thermometers, and clocks, is said to be pursued with considerable success.

The Chinese and the Dutch were long the only foreign nations permitted to hold intercourse with Japan. The Dutch commerce—limited to the single port of Nangasaki (on the island of Kiusiu)—was accompanied by numerous degrading restrictions. The active interference of the United States, in 1854, first effected a departure on the part of the Japanese government from their previous jealous policy towards foreign nations, and various ports of this insular empire have since become opened, under certain restrictions, to commerce. A treaty of commerce between England and Japan was concluded in 1858, upon which occasion Jedo was visited, for the first time, by a British squadron.

The Chinese visit all the principal ports, and exchange some of their silks and other manufactures, together with some tea, sugar, and oil, for the fine copper of Japan. The Dutch trade consists in the import of raw silk, woollen, cotton, and linen cloths, sugar, dye-woods, pepper and other spices, mercury, cinnabar, and a few other articles—principally of European produce; the exports being almost confined to copper bars or ingots, in addition to which are a few lacquered wares and specimens of porcelain.

The internal trade of Japan is said to be very considerable, and excellent roads connect all the principal towns. The shops and markets are well supplied with provisions and other articles, and the whole country presents a scene of active industry. An extensive coasting trade is carried on in the native vessels of the country.

(579.) *Towns.*—*Jedo*, the capital of the Japanese empire, is situated on the south side of the island of Nippon, and is said to have upwards of a

million of inhabitants.—*Kanagawa*, its port (and one of those which have recently become open to foreign intercourse), is fifteen miles nearer the sea, and has a population of 25,000.—*Simoda* is on the south coast of Nippon, to the west of Jedo.

Miako (500,000 inhabitants), situated on the same island, further to the west, is the ecclesiastical capital, and is likewise a considerable manufacturing town.—*Osaka* (150,000 inhabitants), at the mouth of the river on which Miako is situated, is one of the principal ports of the empire, and the seat of a great coasting trade.

Nangasaki, the port to which the Dutch intercourse with Japan was so long restricted, is situated on the west coast of the island of Kiusiu, and has 120,000 inhabitants. Chinese junks, from Cha-poo, Shang-hae, and other places, visit this port.

Matsmai, on the south-west coast of the island of Jesso, is an important commercial town, said to have 50,000 inhabitants.—*Hakodadi*, to the eastward, is a flourishing port, now open to the visits of foreign vessels. The island of Jesso was not originally a portion of Japan, but forms a comparatively recent acquisition of that empire. Its native inhabitants are a race called the *Ainos*, of different origin, language, and manners, to their conquerors.

Fatsio, a small island to the southward of Nippon, is used as a place of exile for such of the Japanese nobility as have fallen under the displeasure of the emperor.

(580.) The long and narrow island of *Sagalien*, or *Tarakai*, which lies off the east coast of Manchooria, and is separated from the mainland by the Gulf of Tartary, is divided between Japanese and Russian rule. The southern half of the island is subject to the authority of Japan; its northern half to that of Russia. The native inhabitants—scarcely removed above the lowest grades of savage life—are of the Aino race. They live chiefly upon fish and seals, and worship the bear.

The two southernmost of the Kurile Islands belong to Japan; the remainder of the chain to Russia.

SECTION XI.—EAST INDIAN ARCHIPELAGO.

(581.) The natural features, climate, and productions of the numerous islands which lie to the south-eastward of Asia have been already described (Arts. 460—464).

In no part of the world is vegetation more richly and luxuriantly developed, or the natural advantages of situation and soil more varied and abundant. A vast archipelago, with numberless islets which facilitate communication between its larger groups of islands, or with the shores of the adjacent continent,—a climate in which the intense heat of the torrid zone is moderated by the surrounding seas,—and a diversified surface, where the hills are clothed with forests of the most valuable trees, and the plains yield the richest plants and spices in spontaneous abundance—these might at first sight appear to point out a region fitted for the highest development of the human race. But the

native inhabitants of the East Indian Islands seem never to have made any considerable advance beyond a condition of barbarism. Such civilisation as has been implanted on their shores has been wholly of foreign origin, and maintained by races of people beneath whose superior intelligence they have in most cases sunk into ready and abject submission. Indeed, as in most tropical countries, the natural advantages of soil and climate have probably operated rather disadvantageously than otherwise upon the social condition of the original population (Art. 92).

(582.) *Inhabitants.* — Java is the most populous among the larger islands of the Eastern Archipelago, and contains upwards of eleven millions of inhabitants. The Philippines have a population of five millions, and Sumatra of about half that number; Borneo and Celebes are supposed each to contain about two millions. Many of the smaller islands are very numerous inhabited, so that the total population of the Archipelago is at least upwards of twenty millions.

The ruling people in the Archipelago are the *Malays*, who resemble the inhabitants of the neighbouring Malayan peninsula, which was probably their original seat (Art. 546). They are strongly addicted to maritime pursuits, and are in many cases inveterate pirates, though a great deal of the peaceful commerce of the Archipelago is also in the hands of the Malay nations. Their boats and canoes are to the Malays what the camel is to the Arab, or the horse to the wandering Mongol, and the necessities of their situation have made them fishermen, navigators, and traders. Their warfare, as well as their ordinary pursuits, is carried on upon the water, and their long *prahus*, or war-canoes, filled with armed warriors, are the terror of the peaceful frequenters of these seas.

The greater number of the inhabitants of these islands belong, however, to tribes of different origin, and amongst whom are many varieties of appearance, language, and manners. Many of them are of a black or sooty-coloured complexion; but the *Dyaks*, or aborigines of Borneo, are fairer than the Malays, of middling stature, and well-made form. The *Bugis* of Celebes, who are the principal people in that island, are also a remarkably fine race, and in many respects superior to the Malays. In the interior of Celebes, and also in many of the more eastern islands of the Archipelago, are a people known as the *Alfooras*, or *Arafouras*, of dark complexion, and much resembling the native inhabitants of Australia. These, and the black races of the East India Islands in general, are everywhere in an inferior condition to the brown tribes, and seem to have gradually retired before the latter into the interior forests and less-known recesses of the islands.

In most of the islands of the East Indies there are numerous Chinese, who are not permanent settlers, but, after remaining a sufficient term of years to acquire the means of independence, generally return to their native country. In this respect the Chinese occupy towards the eastern extremity of Asia a similar position to the Armenians in the western part of the continent, and wherever they are found they are the most industrious and useful class of the community. The gold-mines in the western part of

Borneo, and the tin-mines of Banka, are both worked by the Chinese. In some parts, however, as in Java and elsewhere, there are permanent colonies of the Chinese, who are left in the possession of their own laws and institutions, under authorities responsible to the government for their good behaviour.

(583.) The nations of the East Indian Archipelago are divided into an immense number of native states,—most of them of small extent, and continually becoming limited in their power by the advance of European influence in this quarter of the globe. In most of these the chieftains, or heads of the different tribes, exercise the real control over the people, and recognise the authority of the sovereign to only a limited extent. The people at large are held in complete vassalage, and slavery exists as a recognised institution in nearly all the islands, excepting Java. All prisoners taken in war are regarded as slaves, if not (as is too frequently the case) at once sacrificed to gratify the barbarous and blood-thirsty propensities by which many of the native tribes are actuated.

In their social character, the Malays are distinguished by treachery and the practice of deception. The passion of revenge is carried to the extreme—the person subject to its control sometimes bursting into a fit of furious madness (popularly known as running *a-muck*), under the influence of which he seeks the life of every one he meets, until his own becomes necessarily sacrificed in the efforts of others at self-preservation.

The Dyaks of Borneo (who are the most numerous portion of the inhabitants of that island) are a poor and feeble race, scarcely raised above barbarism, and are addicted to the barbarous practice of cutting off the heads of their enemies and preserving the skulls as trophies of their prowess—upon occasions of public rejoicing even wearing them round their girdles as a conspicuous ornament. So deeply-rooted is this practice, that no young man among the Dyaks can marry until he has presented the object of his affections with at least one skull in token of his courage.

The Bugis of Celebes are very superior to the Malays in regard to honesty, energy of character, and general conduct, and are among the most enterprising traders in the Archipelago. The *Battas*, or Battaks, in the interior of Sumatra are, on the other hand, among the most degraded of the native tribes, and indulge in the practice of cannibalism. Their women are kept in a condition of slavery. Among the Malay nations, however, the condition of the females is in general superior to that which they occupy in most Asiatic countries, and involves less of seclusion and confinement. The husband pays a fixed price for his wife, but the women mostly associate on terms of equality with the men, and in some cases females are raised to the throne.

The Malays, the Bugis, and the inhabitants in general of the greater part of the Archipelago, profess the Mohammedan religion. The Chinese settlers, as well as some of the native tribes, are followers of Buddhism, which appears to have been at some former period more extensively prevalent in this part of the world than it is at the present time. Most of the inhabitants of the Philippine islands have been converted to Christianity. Others of the native tribes in the different islands practise various species of heathen worship.

Many of the native races of the East Indian Islands possess written languages, but their literature is very inferior to that of either the Chinese or the Hindoos.

The Dutch claim a general sovereignty over all the large islands of the East Indies, excepting the Philippines, which belong to Spain, and a part of Borneo—lately become subject to British influence. But in many of the islands the power of the Dutch is really very limited, and scarcely extends beyond the forts which they hold in military occupation.

(584.) *Industrial Pursuits*.—The agriculture of the Malay nations includes a vast variety of produce. The larger islands generally excel in rice, sugar, coffee, tobacco, indigo, cotton, and various kinds of valuable timber—the smaller principally in spices and aromatics. Rice is everywhere extensively grown, and is the principal food of all classes; sago is raised in the more eastern part of the Archipelago, and is largely consumed as food in Celebes and many of the smaller adjacent islands. Pepper and camphor are both abundant in Sumatra. The clove and the nutmeg are found in perfection only in the group of the Moluccas (towards the eastern extremity of the Archipelago)—the former especially in the island of Amboyna, and the latter in the little group of the Banda Islands, to the southward of Ceram.

Cattle are generally plentiful, and sheep, hogs, and goats, are numerous in Java, but are not much used as food—these islanders living for the most part on vegetable diet.

The manufactures of this part of the world are not considerable, but many of the Malay nations are expert weavers. They display great taste and skill in the working of jewellery, and also in cabinet-work,—for the latter of which the numerous kinds of ornamental wood furnish abundant and varied materials. They are acquainted with the art of cutting and polishing precious stones. Coarse cotton fabrics, with leather, and mats, are made to some extent in most of the islands; but the articles required for native clothing are very few (owing to the warmth of the climate), and the European settlers derive their supply of such commodities from their own respective countries.

The commerce of the East Indian Archipelago is very considerable, and promises to be yet further developed to an almost indefinite extent. The Chinese are active agents in this traffic: the principal articles supplied to the markets of China are edible birds'-nests, tripang*, tortoise-shell, mother-of-pearl, camphor, and spices,—in exchange for the manufactures of that country. The chief articles of export to Europe are spices, coffee, indigo, cigars, tortoise-shell, ornamental timber, and (of late years) gutta-percha†; in return for which, British and Dutch manufactured goods, with opium, salt, oil, soap, and gunpowder, are imported. The traffic between

* This article, called also *sea-slug*, or *biche de mer*, is a shapeless gelatinous substance (seemingly devoid of life and motion) of a dirty-brown colour. It is found adhering to the rocks on the coasts of Celebes and the neighbouring islands to the eastward, and is esteemed a great luxury by the Chinese, who eat it in various forms.

† Gutta-percha is a kind of juice obtained from the trunk of a tree, of considerable size, which grows in the forests of Borneo and other islands of the Eastern Archipelago. It is obtained by making an incision in the tree, whence the juice exudes, and coagulates on exposure to the air. It was first introduced into England in the year 1843, and is now manufactured into a vast variety of articles, both for use and ornament.

the different groups and islands of the Archipelago is very extensive, and (as well as the Chinese trade) is carried on entirely in vessels of native construction.

The British share in the commerce of the East Indian Archipelago centres in Singapore, which has been already described (Art. 539).

(585.) *Islands and Towns.* — The large island of SUMATRA (which has an area of nearly 150,000 square miles) contains a number of independent native states. One of the principal of these is the kingdom of Acheen, at the northern extremity of the island, which was formerly more extensive and powerful than at present. The town of *Acheen*, on a river of the same name, has 36,000 inhabitants.

The greater portion both of the eastern and western coasts of Sumatra belongs to the Dutch. The principal of the Dutch settlements is the town of *Padang*, on the west coast (a short distance to the south of the equator). *Bencoolen*, the former Dutch capital, lies further to the south, also on the west coast; it previously belonged to Britain, but was ceded to the Dutch in 1825, in exchange for the town and territory of Malacca. The importance of Bencoolen has much declined, and it has now only 6000 inhabitants. The town of *Rhio*, on a small islet near the southern extremity of the Malay peninsula, also belongs to the Dutch.

(586.) JAVA, the most important and populous island of the Archipelago, and the chief seat of Dutch power in the East, has an area of about 45,000 square miles. *Batavia*, on the north side of the island, near its western extremity, is its chief town, and the residence of the Governor-General of the Dutch possessions. Batavia is a highly important commercial town, and has 118,000 inhabitants, the majority of whom are Malays, — the remainder including 25,000 Chinese, who live in a quarter of the town appropriated to themselves. *Samarang* (40,000 inhabitants) and *Sourabaya* (50,000 inhabitants), both situated on the north coast of Java, are important and flourishing seats of Dutch and other commerce. In the interior of the island there are some small native states, which are, however, tributary to the Dutch.

The islands that stretch in a long chain to the eastward of Java (though containing numerous native states) are subject to the Dutch, with the exception of *Timor*, the most easterly, the northern part of which belongs to Portugal. *Delly*, the capital of the Portuguese portion of the island, is a small place on the north coast: — *Coepang*, at the south-west extremity of the island, is the principal Dutch settlement.

(587.) BORNEO, the largest island in the East Indies (and, regarding Australia as continental, the largest in the world), has an area of not less than 270,000 square miles, or more than three times that of Great Britain. Its interior is believed to be hilly; the peak of *Kina-balow* (near the north-eastern extremity of the island), is 13,680 feet in altitude. Towards the coast Borneo generally exhibits low plains, watered by numerous rivers, and (where not under cultivation) covered with dense forests.

The whole of the west and south coasts of Borneo, and also a portion of the east coast, are subject to the Dutch, whose chief settlements are comprised in the three provinces of *Sambas*, *Pontiana*, and *Banjarmassin*. The towns of Sambas and Pontiana are both situated near the west coast of the island, a short distance above the mouths of two considerable rivers: the principal gold and diamond mines of Borneo are in the

neighbourhood of these places. Banjarmasin, on the south coast, is also situated on the banks of a large navigable stream.

The north-western coast of Borneo, comprising the province of Sarawak and the territory of Borneo proper, with the town of that name, are now in great measure under British influence ; and the small island of Labuan, off the adjacent coast, was formally ceded to Britain in 1846. The town of *Borneo* (or Bruni), situated twelve miles above the mouth of a fine river of the same name, was formerly the capital of a large independent kingdom, which comprised all the northern portion of the island. But it has much declined, having now not more than 10,000 inhabitants, and the authority of its sultan is little more than nominal. In the province of Sarawak, and also at other places upon the north-west coast of Borneo, there are valuable mines of antimony, which are worked to a considerable extent.

(588.) *Labuan Island* ($5^{\circ} 18' \text{ N. lat.}, 115^{\circ} 10' \text{ E. long.}$) lies off the coast, at the entrance of the Borneo river, and about thirty miles to the north of the town of Borneo. It is between eleven and twelve miles long in a north-east and south-west direction, and nearly six miles in its greatest breadth,—embracing an area of about thirty-two English square miles.

Labuan is for the most part flat, well supplied with water, and covered with wood. Towards its northern extremity is a hilly tract, in which coal of excellent quality is found, and is worked to advantage. Upon the south-east side of the island is an inlet called Victoria Harbour, which affords good anchorage, and on the shores of which the foundations of a town have been formed. Here are the residences of the government officials, with barracks and other erections.

When ceded to Britain, Labuan had no inhabitants : besides the government establishment, there are now a large number of labourers employed in working the coal mines. Some of the coal is exported to Singapore, China, and other countries bordering on the eastern seas. Labuan is under a governor appointed by the British Crown.

There are numerous native states in Borneo, most of which, especially those on the western and southern coasts, are connected by commercial treaties with the Dutch.

(589.) *CELEBES*, an island of irregular shape, to the east of Borneo, has an area of about 72,000 square miles. It is chiefly divided among independent nations (of whom the *Bugis* are the principal), but the Dutch possess the settlement of Macassar, upon the south-west coast, and exercise a partial authority over some of the smaller states. Their principal station is *Fort Rotterdam* and the neighbouring town of *Vlaardingén*, erected on the site of the ancient city of Macassar, now decayed.

(590.) The archipelago of the *MOLUCCAS* includes the considerable island of *Gilolo*, with the adjacent islands of Ternate, Tidore, and others of smaller size,—besides *Booroo*, *Ceram*, *Amboyna*, and the group of the *Banda Islands*, all lying further to the southward. Most of these are subject to Dutch rule, though in a few cases the native chiefs are nearly independent. The island of Amboyna (282 square miles in area, and 30,000 inhabitants) is the seat of the principal Dutch settlement, and is—next to Batavia—the chief station of the Dutch commerce in these seas.

(591.) The *PHILIPPINE ISLANDS* are the most northerly portion of the

East Indian Archipelago. They embrace a vast number of islands, the largest of which—Luzon—has an area of about 56,000 square miles. The other principal islands of the group are Mindoro, Palawan, Mindanao, Samar, Leyte, Bóhol, Zebu, Negros, and Panay. They are all mountainous and volcanic, and contain numerous rivers, besides marshes mossy grounds, and lakes: the soil appears peculiarly adapted to the culture of sugar and tobacco, both of which are largely exported.

The Spanish settlers in the Philippines are not more than a few thousands in number, nearly all of them resident in the city of Manilla and its environs. Half-castes, or *mestizos*—as people of mixed Spanish and native descent are called—are numerous. There are also a great number of Chinese, by whom a large part of the trade of these islands is carried on, and who are, next to the English and Americans, the most energetic and enterprising portion of the population.

The natives of the Philippines belong principally to the brown race, but differ in some respects from most of the Malay nations. Though of shorter stature and slighter make than Europeans, they are on the average taller and stouter than the Malays, and are superior in personal strength, as well as in mental activity and intelligence, to the natives of the other islands of these seas. In some of the Philippines, there are also people belonging to the black race, with woolly hair and sooty skins; these are of comparatively diminutive stature, whence they are called *Negritos*, or little negroes.

Luzon, the largest of the Philippines, contains a population of 2,250,000, exclusive of wild and independent tribes, and the Spanish portions of the other islands contain 1,200,000 inhabitants,—making the total population subject to Spanish rule little short of three and a half millions.

The trade of the Philippines is very considerable, and embraces a great variety of articles, both of export and import. Almost the whole of the foreign commerce centres in Manilla. The export trade is chiefly in the hands of British and American merchants, and consists in the extensive supply of rice to China,—sugar, hemp, cigars, cordage, and sapan-wood, to Great Britain and other parts of Europe, as well as to Australia and the United States,—a small quantity of coffee, principally to France,—indigo, to a small amount, and sent chiefly to the United States,—together with hides, mother-of-pearl, tortoise-shell, and a few other articles, for the most part supplied to the Chinese market. Of the exports to Europe, only a small proportion goes to Spain,—probably not a third part of the whole amount.

The import trade is almost entirely in the hands of the British merchants settled in Manilla; the articles which it embraces are chiefly the produce of the looms of Manchester and Glasgow, together with cordage, iron, lead, cutlery and ironmongery, earthenware and glass, umbrellas and parasols, and India beer. The earthenware and other cooking-utensils of the Chinese, with their silks, cloths, and curiosities, are also imported to a considerable amount, and are very plentiful at Manilla.

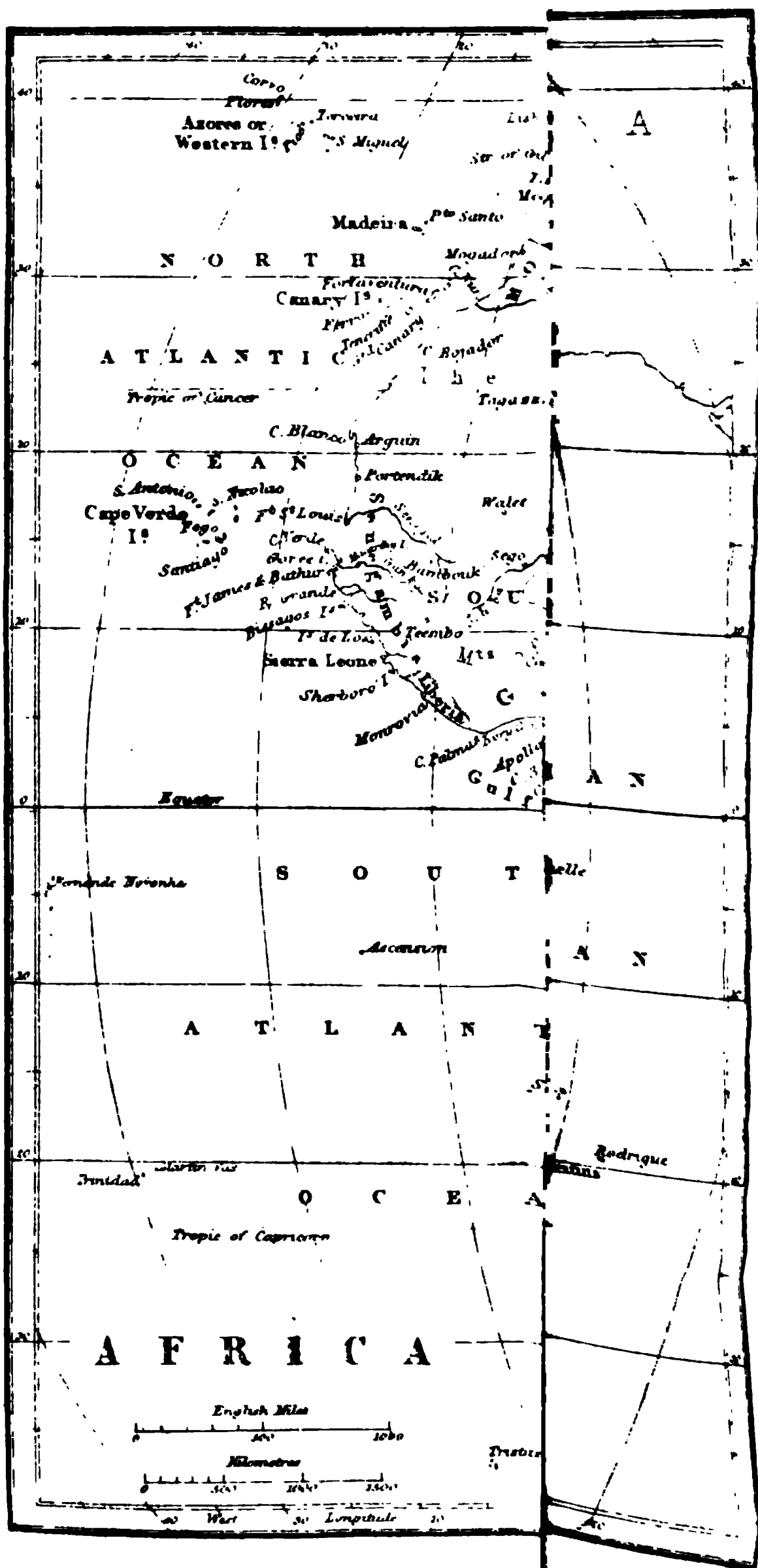
The Spaniards possess only the west coasts of the island of Luzon—the east side, and most of the interior, being under the rule of native chiefs. *Manilla* (200,000 inhabitants), situated on a fine bay upon the south-west coast of the island, is the capital of the Spanish settlements, and is a great seat of trade—though no longer owning the importance

which it possessed in the earlier days of Spanish colonial history. Without the walls of the city nearly all the trade is carried on by the Chinese, whose numerous shops are filled with merchandise of the most varied description.—*Cavite*, ten miles to the s. w. of Manila, on the shore of the bay, is a small commercial town and naval station.

Besides part of Luzon, the Spaniards also possess the island of Samar, the west coast of Leyte, the islands of Zebu and Bohol, the coasts of Negros and Panay, and small portions of Mindoro and Mindanao. The rest are in the possession of native chiefs, of whom the ruler of Mindanao is the most important.

(592.) To the south-west of Mindanao, and extending thence to the north-eastern extremity of Borneo, is the archipelago of the *Sooloo Islands*—all of which are under the rule of a native sovereign, styled the Sultan of Sooloo, whose power has at times also extended over part of the neighbouring coasts of Borneo and Palawan. The people of the Sooloo archipelago are skilful navigators and notorious pirates. The Sooloo Islands contain numerous herds of elephants, though that animal is not found in any of the larger islands of the East Indian Archipelago.

(593.) The *Cocos Islands*, a little group of coral reefs, are situated in the Indian Ocean, between seven and eight hundred miles to the s. w. of the Strait of Sunda. They produce abundance of cocoa-nuts, and are inhabited by a few English and Malays.



CHAPTER XL

AFRICA.

PHYSICAL GEOGRAPHY OF AFRICA.

(594.) *Extent and Boundaries.*—AFRICA is the southwestern portion of the Old World, and is the only one of its continental divisions which stretches to the southward of the equator. Its most northern point is *Cape Blanco* (or *Ras el-Abiad*), upon the coast of the Mediterranean, in $37^{\circ} 21'$ N. latitude: its southern extremity is *Cape Agulhas*, which is $34^{\circ} 50'$ to the south of the equator. A line drawn between these two points measures five thousand miles, which is the linear extent of Africa in a north and south direction.

The most western point of the continent is *Cape Verde*, in $17^{\circ} 40'$ west of the meridian of Greenwich: its most eastern is *Cape Guardafui*, in $51^{\circ} 10'$ east longitude. Between these points the greatest breadth of Africa exceeds four thousand six hundred miles. But the breadth of the northern half of Africa greatly exceeds that of its southern portion; and to the southward of the equator it gradually diminishes in width; until at its termination it presents an expanse of little more than four hundred miles to the waters of the Southern Ocean.*

Africa is bounded on the north by the Mediterranean Sea, on the east by the Red Sea and the Indian Ocean, and on the west by the Atlantic Ocean. Its superficial extent is about twelve millions of square miles, and the length of its coast-line sixteen thousand miles (Art. 83). It is thus

* The sea which lies immediately to the south of Africa, often spoken of by the general name of the Southern Ocean, belongs equally to the Atlantic and the Indian Oceans, the meridian of Cape Agulhas forming an imaginary boundary between those two great basins.

more than three times larger than Europe, but of nearly one-third less magnitude than Asia.

(595.) *Inland Seas, Gulfs.*—The shape of Africa is remarkably solid and compact, and its shores are unbroken by any deep inlets. It has no inland seas which are properly its own, since the Mediterranean is common to all three divisions of the Old World, and the Red Sea washes equally the shores of Africa and Asia. Both of these have been already noticed (Arts. 12 and 452). The *Gulf of Sidra*, and the *Gulf of Cabes*, upon the north coast of Africa, are shallow arms of the Mediterranean.

The *Gulf of Guinea*, upon the western shores of Africa, is a broad arm of the Atlantic, and forms towards its eastward termination the two smaller bays called the Bights of Benin and Biafra. Farther to the south, upon the Atlantic coast, are Walvisch Bay, St. Helena Bay, and Table Bay, —all of small extent.

Upon the south coast of Africa are False Bay, St. Sebastian Bay, Plettenberg Bay, and Algoa Bay; and on the east side of the continent, Delagoa and Sofala Bays. The Gulf of Aden, which lies to the eastward of the entrance to the Red Sea, has been mentioned in Art. 452.

The arm of the sea which lies between the Island of Madagascar and the mainland is called the Mozambique Channel: this is two hundred and fifty miles in width.

(596.) *Capes.*—The principal headlands upon the north coast are Cape Bon, Cape Blanco, Cape Ceuta, and Cape Spartel; the two last-mentioned of these lie on the south side of the Strait of Gibraltar, and adjoin the eastern and western entrances of that channel. Cape Ceuta is a high promontory jutting out into the sea, and fenced by almost perpendicular rocks: it lies immediately opposite to the rock of Gibraltar, upon the northern side of the Strait, and is a position of nearly equal natural strength.*

Upon the west coast of Africa are Capes Cantin, Nun, Bojador, Blanco, Verde, Palmas, Three Points, and Formosa—to the north of the equator; and Capes Lopez, Negro, Frio, and Voltas—to the south of that line.

Upon the south coast are the Cape of Good Hope and

* The rocks of Gibraltar and Ceuta formed the promontories of *Calpe* and *Abyla* in ancient geography, and were commonly designated the *Pillars of Hercules*.

Cape Agulhas. The former of these is one of the most celebrated promontories in the world : its discovery, in 1487*, was the immediate precursor to the accomplishment of a maritime passage to India, and opened a channel to European enterprise which was productive of the most important results.

Cape Agulhas †, ninety-five miles to the south-eastward of the Cape of Good Hope, is a bold headland, the highest point of which is 455 feet above the sea. Off this part of the African coast is the extensive Bank of Agulhas, which stretches out to a distance of two hundred miles from the coast, and is more than five hundred miles long in an east and west direction. A powerful current, called by the same name—the Agulhas (or Lagullas) current—sets over this bank in a westerly direction, carrying the waters of the Indian Ocean into the Atlantic ; a portion of the stream, however, is deflected to the south-eastward, and finds its way back to the ocean whence it originally set out.

The principal headlands on the east coast are Capes Guardafui, Delgado, St. Sebastian, and Corrientes.

The whole of Africa forms, in reality, an immense peninsula, which is connected with the mainland of Asia by the Isthmus of Suez (Art. 451). The highest parts of this isthmus have only a trifling elevation, and in ancient times a canal made from the river Nile to the head of the Gulf of Suez connected the waters of the Mediterranean and Red Seas, thus insulating the whole of Africa. The bed of this canal, which was carried through a natural valley, can still be readily traced ; there is no important obstacle in the way of its being cleared from the sand with which it has become partially filled, and its channel re-opened. ‡

(597.) *Surface of Africa : Mountains.* The mountains of the African continent may be conveniently described

* By Bartholomew Diaz, a Portuguese navigator, who gave it the name of *Cabo Tormentoso*, or the *Stormy Cape*, which was changed on his return home to the more auspicious appellation that it has since borne.

† Or “Needles,” as the word, which is Portuguese, means: Lagullas is a popular corruption of the name.

‡ It was long supposed that there was a considerable variation in level between the seas on either side of the Isthmus of Suez : but it is ascertained that this is not the case. There is no sensible difference between the mean heights of the Mediterranean and Red Seas.

under the five following headings :—the Atlas system, in North Africa; the Mountains of Abyssinia; the Mountains of the Western Coast; the Mountains of Eastern Africa; and the South African Mountains.

1. The region of *Mount Atlas* embraces an extensive series of ranges, of varying elevation, which stretch along the northerly shores of the continent, upon the Mediterranean and Atlantic coasts.

The western and higher part of the chain of Atlas lies in the direction of south-west and north-east, and perhaps averages from 7000 to 9000 feet in elevation; but the highest summits are only seen free from snow at intervals of many years, and one of the most conspicuous among them—*Mitsin*, to the south-eastward of the city of Morocco—is stated to be 11,400 feet in altitude. It is probable that others may be found to reach a still greater height.

To the eastward of the 4th meridian of west longitude, however, all the remainder of the Atlas system is of much less elevation, and probably nowhere exceeds from 3000 to 4000 feet. Instead of a single chain, there are here a number of parallel ranges and detached groups, with intervening plains and valleys, which fill up the country between the 34th parallel of latitude and the shores of the Mediterranean. Beyond the Gulf of Cades the mountains sink into sand-hills of trifling elevation, which border the low and flat coast extending thence to the Gulf of Sidra. On the east side of the last-mentioned gulf is the rocky plateau of Barca, the highest parts of which are perhaps 1500 feet above the sea.

The country immediately to the south of the more eastern chains of the Atlas, and extending as far into the interior as the 30th parallel, is a high and gravelly tract—consisting of broad-backed hills, alternating with wide valleys and watercourses—called the *Belad el-Jered*, or “country of dates,” from the abundance of the date-palm within its limits.

2. The second great mountain-system of Africa is connected with the basin of the river Nile, which lies in the north-eastern part of the continent. The highest parts of this are the *Mountains of Abyssinia*, which rest upon an extensive plateau of from six to eight thousand feet in elevation.

The Mountains of Abyssinia rise above the table-land in detached masses and groups, the highest of which are upwards of 15,000 feet above the sea; those in the province of Semien (in the north of Abyssinia) are probably the most elevated, and are covered with perpetual snow. High rocks, or hills, extend along both sides of the valley of the Nile, through nearly the whole length of its course, but the elevation of these rarely exceeds from five to six hundred feet.

Along the western shores of the Red Sea are a succession of mountain groups, some of which reach from six to nine thousand feet in altitude.

3. High mountain-chains and detached masses extend along the Western Coasts of this continent, between the parallels of 14° of north, and 18° of south, latitude. These ranges are not continuous, for the Quorra and other rivers of the interior find openings between the various groups which they embrace, and thus discharge their waters into the adjacent ocean.

To the north of the equator the Mountains of Western Africa are known by the name of the *Kong Mountains*. These lie in an east and west direction, parallel to the shores of the Gulf of Guinea, but at a distance of about two hundred miles inland. The general height of the Kong Mountains is from three to four thousand feet, but towards their western extremity (between the meridians of 8° and 11° w.) they appear to be connected with a mountain-nucleus which is probably of much greater altitude, and amongst which are the sources of some of the most considerable rivers of this continent.

Near the coast of the Bight of Biafra is the Peak of Cameroons,—a detached mountain-mass, 13,000 feet in height. Farther to the south the mountains lie at some distance inland, and constitute the border of the plateau-region of interior Africa south of the equator. Their elevation, so far as known, seldom exceeds 5000 feet.

4. The mountains of Eastern Africa, to the south of Cape Guardafui, resemble those of the opposite side of the continent, south of the equator. They rise in detached groups above the borders of an interior plateau, which they divide from the lower plains of the coast. The recent journeys of Livingstone show that the interior of southern Africa is a watered region, of moderate elevation (seldom exceeding from 2000 to 3000 feet) above the sea. This is bordered, east and west, by mountains of superior altitude, through openings between which the waters of the interior reach the coast. In penetrating from Zanzibar to the Tanganyika Lake, the highest elevations crossed by Burton and Speke did not exceed 6000 feet. It has, indeed, been stated that the summits of Kenia and Kilimandjaro, nearer the equator, reach above the snow-line (which in such a latitude would probably approach 20,000 feet); but further confirmation of the statement is required.

5. The Mountains of South Africa, within the limits of the Cape Colony, comprise a high chain called the *Nieuvelde Mountains*, which run in a general direction of east and west, at a distance of about 120 miles from the coast. The country thence descends to the sea in successive terraces, marked by other ranges which extend in the same direction, parallel to the course of the Nieuvelde, but of less elevation.

Toward their eastern extremity the highest portions of the Nieuvelde are above 10,000 feet in height, and are here called the Sneeuberg (or Snowy Mountains). The group called the *Compass-berg* is 7400 feet in elevation. Immediately to the south of the Nieuvelde chain is a high plain called the Great Karroo, which extends along the base of the mountains for 300 miles from east to west, with a breadth of about seventy miles, and lies at an elevation of 3000 feet above the sea. The soil of the Great Karroo (like that of similar tracts, or *karroos*, which occur in other parts of South Africa upon a less extensive scale) consists mostly of a hard clay, thinly sprinkled over with sand, and in general too arid to be fit for vegetation.

The Table Mountain, in the neighbourhood of the Cape of Good Hope, and immediately to the southward of Cape Town, is (as its name implies) a flat-topped summit, 3582 feet above the sea, and forms, with some adjoining heights, a detached mountain-group.

(598.) *Table-lands, Plains, Deserts.* — The great feature

of African geography is its immense Sahara, or desert, which stretches over a vast portion of the continent to the north of the equator, and occupies more than a fourth part of the entire area of this division of the globe.

The Sahara (or Great Desert) of Africa commences to the southward of the mountains belonging to the Atlas system, and extends into the interior as far as the 15th parallel of north latitude, with a breadth which in some places exceeds a thousand miles. In the direction of west and east it stretches from the shores of the Atlantic, on the one side, to the hills which border the valley of the river Nile on the other, over a length of three thousand miles. This vast region is in general quite destitute of water, and is the most parched, barren, and terrific waste upon the globe.

The whole region of the Sahara forms a plateau of moderate elevation -- probably not more in general than from 1000 to 1500 feet above the sea, though particular portions of it reach the height of 2000 feet. About the meridian of 14° east it is divided from north to south by a broad and open valley; this forms the district of Fezzan, and is of less general sterility than the adjoining wastes.

The desert lying to the eastward of Fezzan, and extending thence to the Nile, is not so absolutely barren as the western half of this region, and is diversified at intervals by the occurrence of fertile tracts called "oases," where the presence of a perennial spring of water rescues from sterility a small adjacent spot, and imparts to it a verdure which is the more striking from its contrast with the surrounding waste.

The oases of the African desert are depressions below the general level of the plain in which they occur, and the water which appears in them seems to be derived from the more elevated regions further to the south, whence it is conveyed through the substratum of clay beneath the hard limestone rock which forms the general surface of the desert, and to the absence of which in those localities it owes its rise. Several oases occur in the tract immediately to the westward of the Nile, which is sometimes distinguished as the Libyan Desert: the largest of them -- called the Great Oasis -- extends about ninety miles in a north and south direction. But from the Great Oasis southward to the province of Darfour, a distance of 700 miles is passed without meeting with a single habitation, and a few occasional springs of water on the route furnish the only refreshment which the traveller is able to obtain.

The western half of the Sahara, though also diversified by some oases, is a more generally barren region than its eastern division. In some places it consists of dreary black rocks, broken into fantastic forms, and forming ridges which lie so close as hardly to leave room for the caravans to pass between them. In the more open parts are vast tracts of burning sand, blown into ridges and hillocks, steep on one side and sloping gradually on the other, and the position of which is continually changing. The atmosphere over these parched and arid regions often presents the appearance of a red vapour, the heat of which, when augmented by a burning wind called the *Samiel*, or *Simoom*, is sometimes so great as to dry up the water contained in the skins carried by the camels for the use of travellers who cross this wilderness.

There are frequently no other traces of a path across the desert than are afforded by the whitened bones of men and camels who have perished from want of provisions, or from their not finding a supply of water at the usual resting-places on the road, for the position of the few wells of course determines the direction of the route. During the rainy season (from July to October) a few hollows in the desert produce a scanty vegetation, which consist of an aromatic herb resembling thyme, with some berries, acacias, and a few other thorny shrubs and briars, besides ferns and grasses. Shallow lakes impregnated with salts of various kinds are interspersed throughout this tract, and in the western part of the Sahara there are extensive beds of the purest rock salt.

The Sahara forms a natural barrier between the northern and central portions of the African continent,—a barrier which it would be impossible for man to pass without the aid of the camel, an animal whose peculiar constitution enables it to pass long periods without fresh supplies of water, and whose habits are all suited to the purpose of traversing these sandy wastes, which are, indeed, its natural home.

To the eastward of the Nile, and between that river and the shores of the Red Sea, are the *Egyptian* and *Nubian Deserts*, which are high plateaus, traversed from north to south by ranges of mountains, and interrupted by the beds of torrents, in which a few shrubs, trees, and grass, form a scanty vegetation.

(599.) The central part of Africa, between the Sahara on the one side and the parallel of 9° or 10° N. lat. on the other, is an extensive plain, only moderately elevated above the sea, and the southern border of which is formed in part by the chain of the Kong Mountains.

The plain of Central Africa is a watered and fertile region; it contains the basin of Lake Chad, besides the greater part of the course of the Quorra (or Niger). How far the basin of Lake Chad may extend to the east and south-east is unknown, and there is still a vast extent of unexplored interior in the latter direction. Between the 16th parallel of north and the 10th of south latitude, an immense extent of tropical Africa yet remains almost a blank upon the map. Such portions of this great region as have hitherto been visited display, however, physical characteristics similar to those of the interior of the African continent further south—that is, watered plains of moderate elevation above the sea (seldom exceeding from 3000 to 4000 feet), bordered by higher mountain-groups, through openings in which some of the waters of the interior reach the coast. Numerous lakes—the most considerable of them recently visited for the first time by Europeans—occur upon these interior plains, which are fertile and populous.

(600.) The great natural divisions of Africa, as above described, are—1st, the region of Mount Atlas, or Northern Africa—2nd, the region of the Nile, or the countries watered by that river—3rd, the Sahara, or desert—4th, the Plain of Central Africa—5th, the mountains and adjacent plains

of the West Coast—6th, the Eastern Coasts—and, 7th, the mountains and intervening plains of South Africa.

As Europe is distinguished by its peninsulas, its inland seas, and its extended coast-line,—and Asia by its vast plateaus and stupendous mountain-chains,—so Africa is characterised by its immense deserts, which unquestionably form its most distinguishing feature, and which—combined with its unbroken coast-line and the peculiar nature of its climate—have made a large portion of its interior inaccessible to Europeans, and have caused our knowledge of its geography to be more imperfect than that of any other of the great divisions of the globe.

No volcanoes are known to occur upon the continent of Africa, but there are several upon its islands.

(601.) *Rivers.*—The most considerable river of Africa is the *Nile*, which carries off the waters from the northern and western side of the plateau and mountains of Abyssinia, and discharges itself into the Mediterranean. The Nile is formed by the junction of two great streams which unite in latitude $15^{\circ} 40'$ (near the spot where the town of Khartoum is situated); the more eastern of these is called the Bahr-el-Azrek (Blue River), or River Abai, while the western arm is known as the Bahr-el-Abiad (or White River). The White Nile probably draws its waters from a more distant source than the Blue Nile, but the latter exhibits a greater breadth and volume of water immediately above the point of junction, and has been generally regarded as the proper channel of the Nile.

The source of the Bahr-el-Azrek, or Blue Nile, is in the mountains of Abyssinia, at an elevation of 8700 feet above the sea; a short distance below, it passes through the lake of Tzana or Dembea, at an elevation of 6270 feet. The total length of the Nile by this arm is about 2600 miles. The White Nile, or Bahr-el-Abiad, draws its waters from a more southern region. The source of *this* stream has not yet been visited by Europeans, but its course has been traced upwards to within four degrees of north latitude, and there is some probability that it rises to the southward of the equator. The total length of the Nile will thus probably be found not much short of 3000 miles. But the basin of the Nile is of limited extent; below the confluence of the Blue and White Rivers, the Nile has only one important tributary—the Atbara, or Ta-cazze, from the junction of which it flows onwards to the Mediterranean through a course of more than fourteen hundred miles without being increased by the waters of a single affluent.

About 120 miles above its mouth the Nile divides into two branches,

which enclose between them a considerable *delta*; the western of these is distinguished as the Rosetta, and the eastern as the Damietta branch, from the towns situated upon their respective channels, near the points where they discharge their waters into the sea. Through the middle and lower portions of its course the Nile flows in a narrow valley, enclosed on either hand by steep rocks: the width of this valley varies from one or two miles in Nubia and Upper Egypt to as much as ten or twelve miles lower down the stream. Towards the head of the delta the mountains on either side terminate, and Lower Egypt consists of a wide and open plain.

At Khartoum, where the two great arms of the Nile unite, the breadth of the White River varies, with the seasons, from 1400 to 1800 feet. The Blue River has a broader channel, and brings down a greater body of water. In Upper Egypt the breadth of the single channel varies between two and three thousand feet. The two arms into which it divides at the head of the delta have less breadth and depth of channel than the single and undivided stream, but throughout the middle and lower parts of its course the Nile is generally a broad, deep, and navigable river.

In the middle part of its course (that lying through Nubia), the bed of the Nile is at several places crossed by chains of rocks, which partially interrupt its course. These are commonly called the "Cataracts of the Nile;" but they are really only *rapids*, in which there is no considerable fall, though the stream is divided by the rocks into several narrow channels, through which the waters rush with accelerated velocity, forming numerous eddies and whirlpools in their course. There are six of these so-called "cataracts," the first of which (in ascending the stream) occurs at the southern frontier of Egypt. But when the Nile is at its height, during its annual inundation, the cataracts almost disappear, and it is said that they might then be all safely passed in a steamer of light draught.

The periodical rise of the waters of the Nile is more fully referred to in the account of Egypt.

(602.) The Nile is the only considerable river which enters the Mediterranean sea from the shores of Africa. The streams which flow from the mountains of the Atlas system are numerous, but of short courses; among the principal are the Mejerdah, Roumel, Shellif, and Mulwia, falling into the Mediterranean, and the Sebou, Oom-cr-begh, and Tensift, into the Atlantic: but the longest of these does not exceed 250 miles, and their volume of water is trifling, except during the continuance of the rainy season.

(603.) Upon the west coasts of Africa the principal rivers are the Senegal, the Gambia, the Rio Grande, the Rokelle, the Volta, the Quorra, the Zaire or Congo, the Coanza, and the Gariep or Orange.

The Senegal (900 miles), and the Gambia (650 miles), both flow in a westerly direction, and draw their water from the high tract which has been mentioned as adjoining the western extremity of the Kong Mountains (Art. 597). The Quorra originates on the opposite side of the

same mountain-region, and flows to the north-eastward. Both the Senegal and the Gambia are navigable rivers.

The Quorra (or Niger), which has in part an easterly course, bends gradually to the southward, and, passing through the Kong chain, enters the Gulf of Guinea by several mouths. Its length is perhaps about 2300 miles: above the place of its passage through the Kong it receives the Chadda, a broad and deep tributary, which bears higher up the name of the Benue. The upper portion of the Quorra is called the Joli-ba (or great river).

The *Gariép* or *Orange River*, in South Africa, has a length of above 1000 miles. The Gauritz, Camtoos, Great Fish, Keiskamma, and other rivers of the south coast, are of inconsiderable magnitude.

(604.) The principal river upon the eastern side of Africa is the *Zambesi*, which has been traced downwards from the plains of the interior to its outlet in the Indian Ocean, and is navigable throughout its lower and middle course. At a distance of about 900 miles above the sea the whole stream of the *Zambesi* (there 1000 yards wide) is suddenly precipitated a depth of 100 feet, into a narrow fissure or rent which crosses its channel, the river becoming compressed into a breadth of not more than fifteen or twenty yards. To the magnificent spectacle there presented, Dr. Livingstone has given the name of the Victoria Falls. The Limpopo, Lufiji, Pangani, Jubb, and other rivers of the eastern coast, have hitherto been only partially explored by Europeans.

(605.) *Lakes*. In the northern half of Africa is *Lake Chad*, which has an altitude of 850 feet above the sea, and covers several thousand square miles. But its extent varies greatly with the seasons, and it is rather a vast marsh than a lake. During periods of drought its waters become contracted to comparatively small dimensions, and are sometimes almost dried up. The average depth does not exceed from 15 to 20 feet: its waters are fresh and clear.

Lake Chad receives the river Shary from the southward, and the stream of the Yeou from the west, but it has no outlet. It hence presents an exception to the general truth, that lakes which possess no channel of discharge have salt water.

Lake Tzana (or *Dembea*), in Abyssinia, has an area of 1400 square miles, and lies at an elevation of 6270 feet. The salt lake of *Assal*, in Abyssinia, not far from the head of the Gulf of Aden, is depressed 570 feet below the level of the sea. *Lake Keroun* (130 square miles), in Egypt, derives its waters from the Nile. There are several salt lakes among the valleys of the Atlas; they are mostly shallow, and become in some instances wholly or partially dried up during seasons of drought.

Several large lakes have been discovered, within recent years, in the interior of Africa to the south of the equator. The most considerable of these are the lakes of *Nyanza* and *Tanganyika*; the former at an elevation of 3750 feet, the latter 1800 feet, above the sea. The *Tanganyika* lake has a length of above 300 miles, and a breadth of between 30 and 40 miles. Lake *Nyanza* is apparently of still larger proportions. Both lakes are of considerable depth, and the waters of both are fresh.

Other considerable fresh-water lakes are known to occur in the more

southern interior—among them that called N'yassi (or Maravi), and, much further south, N'gami (or "the Great Water"). Lake N'gami has an elevation of 2800 feet. A river called the Zouga flows out of it to the eastward.

(606.) *Islands*.—Upon the western side of Africa are Madeira; the Canary Islands; the Cape Verde Islands; Fernando Po, Princes Island, St. Thomas, and Annobon; Ascension; St. Helena; and the archipelago of Tristan d'Acunha;—all of which lie in the Atlantic Ocean.

In the Indian Ocean, to the eastward of the continent, are Madagascar, Bourbon, Mauritius, the Comoro Islands, the Amirante Islands, the Seychelle Islands, and Socotra.

A few small islands lie in the Mediterranean Sea, a short distance from the African coasts: among them are Jerbah, and the Kerkenah Islands, in the Gulf of Cades; with the islets of Lampedusa, Linosa, and Pantellaria, in the channel lying between the coast of Africa and the island of Sicily.

Madagascar, one of the largest islands in the world, contains high chains of mountains in the interior, with an extensive belt of lowland round the coast: it is watered by numerous rivers, some of them of considerable magnitude.

(607.) *Climate*.—The climate of Africa is generally hot and dry, and nearly every part of this continent has a higher temperature than other parts of the globe in similar latitudes. This is owing to its vast and continuous breadth of land, situated in the heart of the torrid zone, and to the immense extent of its deserts, from the arid surface of which the heat of the sun's rays is reflected with intense power.

The region of highest *summer* temperature in this continent (and indeed in the whole world) is found in a tract which extends through the central portion of the Sahara, and across the deserts lying between the Nile and the Red Sea. The opposite (or Asiatic) shores of the Red Sea, with the greater part of the Arabian deserts, and the countries bordering on the Persian Gulf, are included within the same circle of intense heat. The highest *winter* temperatures are comprehended within a belt which stretches across the central regions of Africa, extending to some degrees upon either side of the equator, and including the northern shores of the Gulf of Guinea and part of the adjacent coast of Senegambia. But the differences of summer and winter temperature are experienced to a less extent in this continent than in other parts of the globe, and the deviation of its isothermals from the direction of the parallels is by no means so great as that of similar lines drawn across countries in higher latitudes.

The most intense degree of heat is experienced in the Sahara, the thermometer frequently rising (in the shade) to 113° , and sometimes exhibiting even a still higher temperature. The climate of the northern

coasts of Africa does not differ very materially from that of the countries bordering on the opposite shores of the Mediterranean, though exhibiting a somewhat greater degree of heat. Algiers has a mean annual heat of 64° , with a summer temperature of 74° , and a winter of 54° . Tunis, further to the eastward, has a mean summer heat of 83° , a winter of 55° , and a mean annual temperature of 68° . At Cairo, on the banks of the Nile, the mean of summer is 85° , of winter 58° , and of the year 72° :—the average heat, and also the amount of difference between the extremes, thus becoming greater in proceeding eastward, and in approaching nearer to the region of highest temperature.

At Sierra Leone, on the west coast of Africa, the mean temperature of the year is 79° , and there is only a difference of 5° between the hottest and coldest months,—in the former the thermometer showing a mean of 82° , and in the latter of 77° . Cape Town, near the southern extremity of the continent, and within the temperate zone, has a mean temperature of 60° , with a summer of 67° , and a winter of 54° .

But the prominent feature of African climates is the division of the year into the dry and the rainy seasons, which succeed one another with undeviating regularity. Within the tropics the rains follow the course of the sun, and the rainy season occurs within either half of the torrid zone as that luminary approaches the zenith. Upon the north side of the equator, the tropical rains extend to about the 16th degree of latitude along the southern borders of the Sahara, and further eastward, in Nubia, they are experienced as far north as the 18th parallel. But towards the northern and southern extremities of Africa, beyond the tropics, the rains fall in either hemisphere at the period when the sun is on the *opposite* side of the equator, or in the winter of those latitudes.

The extra-tropical rains of Northern Africa begin at about the 27th or 28th parallel, and water the country which extends thence northward to the shores of the Mediterranean. In the space included between the limits of the tropical rains and those of the northern coast,—that is, between the 16th and 28th parallels (including the greater part of the Sahara)—scarcely any rain falls. Very little falls in Egypt,—sometimes none for several years in succession in Upper Egypt, though in Lower Egypt there are generally from thirty to forty days in the year upon which a little rain occurs.

Along the eastern and western coast of Africa, to the south of the equator, the regular succession of the dry and rainy seasons is experienced,—excepting on the west coast between the parallels of 18° and 28° (s. lat.), which are perfectly arid. Within the Cape Colony the rains are often deficient and irregular, and in the tracts bordering on the Great Karroo there is generally a great scarcity of moisture.

The climate of tropical Africa has been found more unhealthy to Europeans than that of any other portion of the globe. This is especially the case with the western coasts, where the most deadly fevers prevail, and the strongest constitutions are not proof against the pestilential influences of the moist and heated atmosphere. Many parts of the eastern coast appear to be scarcely less insalubrious, though on ascending from the low shores towards the higher regions of the interior a cooler and healthier climate is found.

Upon the coasts of Senegambia and Guinea the winds known as *land* and *sea breezes* prevail. These are owing to the different temperatures

of the air over the land and the sea respectively, and to the greater rapidity with which the former acquires or parts with its heat than the latter. During the day-time the air over the land becomes intensely heated, and as it rises (from its rarefaction and consequent lightness) into the higher regions of the atmosphere, a cooling breeze sets in from the sea towards the latter portion of the day—generally within an hour or two of sunset. During the night, the land rapidly parts with its heat, and the air above it becomes in consequence relatively cooler than that over the sea; hence the latter has a tendency to rise, and towards the morning a wind blows off the shore—that is, a land breeze, which continues until the sun again begins to manifest his heating power.* These alternate land and sea breezes render the air comparatively cool and refreshing during the mornings and evenings: but before the intense heat of the mid-day sun all nature droops as in absolute exhaustion, the sounds of birds and beasts are alike hushed, and the wild animals retire into the deepest solitudes of their forests or jungles; while man is scarcely able to support the languor which creeps over his frame, and deadens his vital powers.

The hot winds of the African desert have been already referred to (Art. 598). An intensely heated and dry wind called the *Harmattan*, which comes from the eastward and has its origin in the Sahara, sometimes blows over the coasts of Senegambia and Guinea, and prevails for several days together. Throughout tropical Africa the setting in of the rainy season is accompanied by violent tornadoes, with tremendous storms of thunder and lightning.

NATURAL PRODUCTIONS OF AFRICA.

(608.) *Minerals.*—Gold is the characteristic produce of this continent, and is found in the plains of Central Africa, and also upon both the western and the eastern coasts. Some of the mountains in the western part of Soudan, between the head-waters of the Senegal and the Quorra, are rich in this metal, which is thence washed down with the sands of the rivers. A part of the coast of Guinea (lying along the gulf of that name), is distinguished as the Gold Coast, owing to the abundant supply of the precious commodity furnished by the mountains which form its inland border; in many places on this coast small quantities of gold dust may be obtained by agitating the earth with water.

Upon the east side of Africa, gold dust is obtained on the coast of Mozambique, and in the countries bordering on the river Zambesi, where it is found in the mountains of the interior; it is also said to occur in the high tracts to the south of Abyssinia.

Silver, iron, lead, and copper, are found in most of the mountainous districts of this continent, but none of them are worked to any considerable extent. Copper ore abounds in some parts of the Atlas region, to the south of the town of Morocco, and elsewhere; it also occurs in South Africa, to the northward of the Orange River. Copper, iron, and other metals, occur in the Egyptian desert, between the Nile and the

* The land and sea breezes are not peculiar to Africa, but prevail upon the coasts of most countries within or adjacent to the tropics, as upon the shores of India Brazil, and elsewhere.

Red Sea, and were worked by the ancients. Copper is also abundant on the Upper Zambesi, and upon the western coast to the southward of the equator.

Iron is found among the ranges of Mount Atlas, in Abyssinia, and in parts both of Central and Southern Africa ; the soil of the Great Karroo, in the latter region, is largely impregnated with this ore.

But salt is one of the most valuable of the minerals found in Africa, and is widely diffused over all its more sterile portions, especially in the western half of the Sahara. It is, indeed, wanting in the plains of Central Africa, but is brought from the neighbouring desert by the native traders. The numerous salt-water lakes amidst the southern valleys of the Atlas, as well as in other parts of the continent, supply abundance of this mineral by evaporation, which goes on rapidly under the influence of an African sun. Abundant saline deposits (consisting of nitrate of potash and soda) have been found near the inlet of Angra Pequena, upon the west coast of South Africa (lat. $26^{\circ} 40'$ s.).

(609.) *Vegetation.* — The *northern*, *equatorial*, and *southern* regions of this division of the globe are the seats of distinct forms of vegetable life.

In northern Africa, the plants found growing among the hills and valleys of the Atlas region differ but little from those of the Spanish and Italian coasts, on the opposite shores of the Mediterranean (Art. 68). Wheat, barley, rice, and maize, together with the wild olive, orange, lemon, fig, pomegranate, vine, castor-oil plant, and carob-tree, all flourish ; besides a vast number of other fruits, including the almond, the mulberry, the melon, and the lotus-plant. The cork-tree, the cypress, and numerous oaks, grow upon the sides of the Atlas, and several species of palms occur here (as indeed over the whole of Africa, with the exception of its most southern extremity). The date-palm grows on the shores of the Mediterranean, but yields its finest produce upon the southern and western slopes of the Atlas, which are its proper region.

In addition to the plants above enumerated, those parts of Egypt which are watered by the Nile supply the cotton-plant and the sugarcane, besides coffee, tobacco, and indigo. In ascending the valley of the Nile, through Upper Egypt and Nubia, there are found numerous acacias (or gum-producing trees), cassias, tamarisks, and mimosas ; besides the *doum* (or branched) palm, together with the date-palm and others of this family. The coffee plant grows wild in Abyssinia, the highlands of which are its original and native seat, and the forests of that country contain numerous groves of sycamores, acacias, and cassias.

The immense region of the Sahara, which intervenes between Northern Africa and the fertile plains in the interior of the continent, though not altogether destitute of vegetation, possesses but a limited variety of plants, consisting of a few prickly shrubs, berries, and grasses. But wherever, throughout the desert, a perennial supply of water occurs, the date-palm is found to flourish, and this tree — with its tall and graceful stem, its tapering leaves, and its abundant supply of fruit, — imparts to the oases of the African wilderness their most striking and attractive feature. To the southward of the desert, however, the date-palm gra-

dually disappears, and totally new forms of life mark the vegetation of the strictly equatorial regions of Africa.

(610.) Forest-trees of vast size are found both in the interior plains of Central Africa and upon the tropical regions of the western and eastern coasts. The most striking among them is the gigantic *Adansonia*, or baobab, which yields the fruit called monkey-bread, extensively used as food by the natives of Senegambia. This tree, though rarely exceeding sixty or seventy feet in height, has in some cases a trunk more than thirty feet in diameter,—bearing a large, bushy, and umbrella-shaped head,—and, like the dragon's blood tree of the Canary Islands, flourishes through the growth of perhaps not less than a thousand years.

Among the numerous palms of this part of Africa, one of the most valuable is that known to botanists as the *elais guineensis*, which furnishes the palm oil of commerce, and which is found in abundance on the coasts of Guinea. Vast forests of gum-trees (including that which yields the copal-gum or varnish) flourish on the coasts of Western Africa, together with an immense multitude of ornamental and dye-woods, as cam-wood, ebony, and others, besides the African teak and various hard-woods of durable qualities.

Numerous fruits and esculent roots supply in equatorial Africa the place of the cereals of the temperate zone ; among them are the cassava, yam, ground-nut, papaw, banana, tamarind, cocoa-nut, pine-apple, and many species unknown to other parts of the world. Amongst the fruits of Central Africa is the *shea* or butter-tree, the kernel of which yields a kind of butter that keeps sweet for a long period without the aid of salt. Maize is grown in tropical Africa to some extent, and the sugar-cane, with cotton, tobacco, and indigo, are all capable of flourishing in these regions. Several of the plants above enumerated, however, are common to Africa with other divisions of the globe, as the maize, cassava, and pine-apple, which belonged originally to America, and the tamarind, banana, sugar-cane, and others, which have been brought from the shores of the Asiatic continent.

The extreme eastern region of Africa, lying to the southward of the Gulf of Aden, is distinguished as the seat of numerous balms, gums, and odoriferous plants, including cassia, cinnamon*, myrrh, frankincense, and other aromatics. It was this tract of country that supplied in ancient times many of the rich materials which entered so largely into the commerce of the Arabians.

(611.) The native forms of vegetable life which distinguish Southern Africa are heaths, aloes, crassulas, euphorbias, stapelias,—and plants in general with slender wiry roots and thick fleshy leaves, such as thrive in an arid soil, and derive their nourishment rather from the dews than from the moisture of the ground. In its numerous varieties of the heath tribe,—many of them distinguished by the most striking beauty,—the extreme southern part of Africa is particularly deserving of notice. Bulbs and orchidaceous plants are also very numerous.

The vast majority of the plants and flowers found in the neighbour-

* Of a different species from the cinnamon of Ceylon, whence the chief supply of that spice is derived at the present day.

hood of the Cape of Good Hope exhibit forms and colours altogether different from those familiar to the eyes of residents in the Northern Hemisphere, and their beauty and variety alike astonish and delight both the botanist and the casual observer. Few of these, however, are of much utility to man, and the native grasses are generally coarse, and of inferior nutritive quality to those of the opposite side of the globe. But wheat and other grains, together with the vine and numerous fruits, have been introduced from Europe into Southern Africa, and are now extensively cultivated. The south-eastern shores of the continent, including the coast-district of Natal, appear particularly adapted to the growth of the cotton-plant.

(612.) *Zoology*. — Africa abounds in all the higher orders of animal life, and has a greater number of mammalia peculiar to it (that is, found only within its limits), than any other division of the globe,—surpassing even Asia in regard to this department of the natural kingdom. Indeed more than one-fourth of the total number of mammalia known to naturalists occur in this continent, and, of these, fewer than a sixth part are common to Africa and the other continents. It is in the carnivorous, ruminating, pachydermatous, and quadrumanous orders that the zoology of Africa is more especially rich.

Among the beasts of prey are the lion, panther, leopard, wolf, fox, jackal, and hyena. Three varieties of the lion occur—that of Barbary (or Northern Africa), of the countries on the Senegal, and in the neighbourhood of the Cape Colony. The tiger does not occur in Africa, nor have any bears been found. Of the hyena there are two species, one of which—the spotted hyena—inhabits Southern Africa, while the striped hyena is a native of the more northern parts of the continent, and extends his range from Abyssinia and Barbary into Persia and other countries of Western Asia. The wolf and the jackal belong chiefly to the northern regions of this continent. The civet is found in most parts of Africa, and is reared by the natives for the sake of its perfume. The ichneumon is also numerous distributed, and one species frequents the valley of the Nile, where it renders service to man by destroying the eggs of the crocodile and other reptiles.

Among the ruminating animals are no less than sixty species of the antelope kind, which is especially abundant in Southern Africa. The camelopard or giraffe is peculiar to this continent, and ranges from the banks of the Gariep to the southern borders of the Sahara, but is not found upon the western coasts. Several species of buffalo occur in a wild state, and are most abundant within the outlying districts of the Cape Colony. Sheep and goats abound in most parts of Africa, but are probably not indigenous; both in Barbary and near the Cape of Good Hope—at the opposite extremities of the continent—are found sheep with broad fat tails, so large as sometimes to weigh from ten to thirty pounds. The camel of Africa is found all over its northern and central regions.

Of the pachydermata, or thick-skinned animals, the most characteristic are the elephant, rhinoceros, and hippopotamus. The elephant is found dispersed, in immense herds of from one to three hundred, all over the wooded regions of Central and Southern Africa, and the rhinoceros frequents principally the same localities. The ivory supplied by the tusks of the former is one of the most valuable native products of this quarter of

the globe. The rhinoceros is valued chiefly for its hide, which is made into shields and harness.

The hippopotamus is found in the upper part of the Nile valley, and in all the lakes and rivers to the southward of the Great Desert—including the Senegal, the Gambia, the Congo, and the Gariep. This animal is peculiar to Africa: its teeth consist of the finest ivory, for the sake of which it is hunted by the Cape colonists, who likewise consume as food some portions of its flesh.

The wild boar is found in some parts of Africa: the zebra, dow, and quagga (all three peculiar to this continent), abound in its central and southern regions, particularly in the arid plains in the neighbourhood of the river Gariep.

Of the African quadrumana, monkeys, baboons, apes, and lemurs, abound in the forests throughout every part of the continent: the chimpanzee of the western coasts (from the neighbourhood of Sierra Leone to the 10th parallel of s. latitude), and, yet more, the gorilla of the Gaboon river (N. lat. $0^{\circ} 30'$), make a still nearer approach to the human form than the ourang-outang of south-eastern Asia.

Bats are numerous in Africa, and most of the species inhabiting this continent are peculiar to it. The rodentia (or gnawing animals) are also for the most part of peculiar species; among them are hares, rabbits, jerboas, squirrels, rats, and mice.

Among birds, the ostrich is confined to Africa, but ranges from its southern extremity to the northern borders of the Great Desert. Its feathers form a highly-valued article of traffic, and the bird is domesticated in many parts of Africa for the sake of procuring these free from injury. The vulture (of which two species occur—one in Northern Africa, and the other in the neighbourhood of the Cape) serves here, as elsewhere, to preserve the air from impurity, by feeding on the carcases of animals, and divides with the hyena the office of scavenger. The owl, falcon, and eagle, are also enumerated amongst the African birds of prey. Of gallinaceous birds Africa possesses only the guinea-fowl; but the domestic poultry are numerously reared, though not indigenous.

The woods of tropical Africa abound in numberless varieties of parrots and parroquets, besides many other birds of bright and gaudy plumage,—as the beautiful sun-birds (which inhabit the western coasts, and are scarcely larger than the humming birds of America), together with the golden-coloured orioles, crested hoopoes, bee-eaters, and others. The honey-suckers, which abound in the neighbourhood of the Cape of Good Hope, feed entirely upon the nectar or saccharine juice of the proteas and similar plants. The sun-birds also occur in Southern Africa, and rival those of India and the Gambia in the brilliancy of their colours.

Lizards, serpents, and reptiles of every description, abound in Africa. But many of these, though noxious to the presence of man, really render him service by preying upon the smaller varieties of animal life, including the numberless insects with which this part of the globe abounds. Thus the lizard attacks all kinds of insects, and in many cases the rats fall a prey to the snake, which sometimes even penetrates in their pursuit the thatch with which the houses are covered. The crocodile inhabits all the large rivers of tropical Africa, and is abundant in the lower portion of the Nile. The huge python, sometimes twenty-two feet in length (though inferior in size to the boa of the New World), is found in the

swamps and morasses of the western coast, and some species of the cobra (or hooded snake) occur,—chiefly in Southern Africa and on the shores of Guinea.

Several varieties of the serpent tribe inhabit Egypt,—among them the asp; the jugglers of that country, like those of India, practise serpent-charming as a profession, and perform astonishing feats with the reptiles whom they have subdued to their skill.

Insects abound, both in species and as individuals; among them is the locust, which at intervals ravages all the northern parts of the continent. But the *termites* (or *white ants*) of Western Africa are the most celebrated members of the insect-family, and effect the most extraordinary destruction of furniture, books, clothes, food, and everything that comes in their way. They build for themselves pyramidal or conical nests, firmly cemented together, and divided into several apartments,—so large that at first sight they appear in the distance like the villages of the natives. Both the bee and wasp are numerous distributed, but the bee has not been domesticated by any of the native people of this continent; it is, however, numerous reared by the Arabs in Northern Africa.

(613.) *Inhabitants*.—The vast majority of the people of Africa consist of Negro nations, who inhabit all the interior of this continent to the southward of the Great Desert, together with the western coasts from the banks of the Senegal to the 16th parallel of south latitude, and also a great part of the eastern coasts.

The general features of the Negro variety of the human family are—the eyes and skin black; the hair black and woolly; the forehead low and slanting; the nose broad, flat, and thick; the lips thick; the cheek-bones prominent, and the jaws narrow and projecting; the palms of the hands, and the soles of the feet, flat; and the forms of the arms and lower extremities clumsy and ungraceful. But these characteristics of the Negro type are not equally marked throughout,—some of the Negro nations possessing them only in a very modified degree as compared with others in whom they are more strikingly indicated. Indeed the varieties among the Negro race are probably quite as numerous as those among the Hindoos, or any other of the great families of mankind, and extend to differences of language, as well as of appearance, dress, and manners.

In stature and physical strength the Negro is equal to the European, and in the latter respect is certainly superior to any of the native races of either the Asiatic or American continent. His intellectual capacity has been open to greater question, but there can be no doubt of the high standard of mental cultivation to which many individuals of the purest Negro blood have attained, and at the present time Africa exhibits the spectacle of a perfectly civilised Negro community—that of Liberia—

the members of which consist entirely of the native and dark-coloured race of this continent.

Upon the eastern coasts of Africa, Negro nations are found from the neighbourhood of the Zambesi northward ; but the extreme northern part of this coast, towards Cape Guardafui, is inhabited by a totally distinct people—the *Somauli*—who are of pastoral habits. How far the Negro race may extend into the interior of the southern half of Africa is unknown, but the people found dwelling on the eastern outskirts of this elevated region are in many respects superior to the nations who inhabit the low plains of the coast.

(614.) The inhabitants of Northern Africa embrace three families of different origin,—though found in the same region, and in some degree mixed with one another : these are the *Berbers* (or *Kabyles*), the *Moors*, and the *Arabs*. The first and second of these are confined to the coasts of the Mediterranean and the ranges of Mount Atlas, but the Arabs are spread over all the northern half of the continent, and (under the name of *Fellatahs*) are mixed with the Negro nations of Central Africa.

The Berbers are supposed to be descended from the aboriginal inhabitants of the Atlas region, and it is from them that the name of *Barbary* has become applied to this territory. The Moors are a mixed people, descended in part from the primitive inhabitants, and in part from the successive conquerors and colonists of this portion of the Mediterranean coasts. The original seat of the Arab race is in the neighbouring continent of Asia, whence they first visited Africa as conquerors, under the standard of the early Mohammedan chieftains. All the people of Northern Africa are distinguished by a light brown complexion (but little deeper in shade than that of the native of the southern coasts of Spain), with long black hair, and dark eyes.

The *Copts*, who are amongst the inhabitants of modern Egypt, are a native African race, and are the genuine descendants of the ancient Egyptians. But their whole number does not exceed 150,000. The distinguishing features of the Coptic race are a dusky yellow complexion,—a full countenance—the nose nearly straight, with broad flat nostrils—the lips thick, and the eyes swollen and prominent—the same, indeed, which are rendered familiar by their frequent representation upon the ancient Egyptian monuments.

The people of Nubia and Abyssinia include several distinct races, who are mostly intermediate in character between the Arab and Negro types, though each of them possesses distinguishing features of its own. The Galla, a ferocious people who dwell in the south of Abyssinia, have a brown complexion, with long, black (and partially woolly) hair.

(615.) The two principal native races of Southern Africa are the *Hottentots* and the *Caffres*. The former of these were the original inhabitants of the Cape Colony and the basin of the river Gariep: they are naturally among the

most degraded members of the human family, but have shown themselves by no means incapable of acquiring the habits and usages of civilised life. The colour of the Hottentot is a dark and yellowish brown; the hair short and frizzled, and distributed over the head in tufts; and the stature on the average a foot shorter than that of Europeans. The total number of the Hottentot race,—including the Griquas, Koranas, Namaquas, Bosjesmans (or Bushmen), and other tribes who speak the Hottentot language—is supposed not to exceed 150,000.

The Caffres, who adjoin the Hottentots on the north and east, and spread along the south-eastern coasts as far as the neighbourhood of the river Zambesi, are in physical characteristics much superior to their neighbours. They are generally well-made, and their limbs of rounded form,—their colour a deep brown,—their hair short, black, and curly, but less woolly than that of the Negro,—and their whole frame muscular and athletic. The Caffres are a numerous family, and, with the Zoolahs, Bechuanas, Damaras, and other tribes speaking dialects of the same language, amount to more than two millions of people.

(616.) The Arabic is the most widely diffused of all the languages spoken in Africa, and is understood to a greater or less extent over nearly the whole continent to the northward of the equator. But this is not a native African tongue.

The Mandingo language is the most extensively diffused of all the native dialects of Negro Africa, and is spoken throughout the countries watered by the upper and middle portions of the Quorra (extending from the Mountains of Kong to the southern borders of the Great Desert), as well as within the region of the Upper Senegal and over a large portion of the Western Coast in the neighbourhood of Sierra Leone.

The amount of the population of Africa is merely conjectural, but it is generally supposed to amount to not less than a hundred millions. This would be in the ratio of scarcely more than eight inhabitants to the square mile.

TABLE OF AFRICAN MOUNTAINS, WITH THEIR ELEVATIONS.

Mount Atlas (North Africa); average height from 7000 to 9000 feet in western part, from 3000 to 4000 feet in eastern division:—

	Height of sum- mits, in feet.
Miltain (lat. 21° 12', N. long. 7° 24' W.)	11,400
Mountains of Abyssinia:	
Abba Jared (province of Samien), (13° 20' N. lat., 38° 24' E. long.)	15,000
Mount Geesh (10° 56' N. lat., 36° 54' E. long.)	9,700

Egyptian and Nubian Mountains (along west coast of Red Sea), from 3000 to 4000 feet :

Jebel Lehuma (lat. $24^{\circ} 14'$, long. $35^{\circ} 3'$)	-	-	-	-	-	9,600
Jebel Ghrarib (lat. $28^{\circ} 23'$)	-	-	-	-	-	6,000

East African Mountains :

Kilimandjaro ($3^{\circ} 40'$ S. lat.), perhaps about	-	-	-	-	-	20,000
Kenia (2° S. lat.), perhaps about	-	-	-	-	-	20,000

West African Mountains :

Sierra Leone, highest point about	-	-	-	-	-	3000
Kong (or Kakunda) Mountains, from 3000 to 4000 feet	-	-	-	-	-	
Peak of Cameroons ($4^{\circ} 4'$ N. lat.)	-	-	-	-	-	13,000

South African Mountains :

Nieuweldt, or Sneeuwberg (Cape Colony), highest points above	-	-	-	-	-	10,000
Compass-berg ($31^{\circ} 5'$ S. lat., $24^{\circ} 50'$ E. long.),	-	-	-	-	-	7,400
Table Mountain, near Cape Town	-	-	-	-	-	3,582
Draken-berg, or Katslambe Mountains (Natal), highest points exceed	-	-	-	-	-	5000

ISLANDS OF AFRICA.

Madeira: Peak of Ruivo	-	-	-	-	-	6055
Canary Islands :						
Peak of Teneriffe	-	-	-	-	-	12,236
El Cumbre, in Grand Canary	-	-	-	-	-	5,842
Cape Verde Islands: Peak of Fogo	-	-	-	-	-	9,157
Fernando Po: Clarence Peak	-	-	-	-	-	10,655
Princes Island; highest point	-	-	-	-	-	4,000
Annabon	-	-	-	-	-	3,000
Ascension: Green Mountain	-	-	-	-	-	2,870
St. Helena: Diana Peak	-	-	-	-	-	2,700
Tristan d'Acunha: highest point	-	-	-	-	-	6,400
Madagascar: highest peaks from 8000 feet to	-	-	-	-	-	12,000
Bourbon: Piton des Neiges	-	-	-	-	-	10,355
Piton de la Fournaise	-	-	-	-	-	7,200
Mauritius: Mountain of Rivière Noire	-	-	-	-	-	2,902
Peter Botte Mountain	-	-	-	-	-	2,874
Socotra: highest points	-	-	-	-	-	4,500

CHAPTER XII

NATIONAL DIVISIONS OF AFRICA.

SECTION I. — NORTH AFRICA, OR BARBARY.

(617.) *Boundaries and Extent.*— THE region called by the general name of Barbary extends from the shores of the Atlantic Ocean on the west, as far as the meridian of 25° on the east ; its northern limit is formed by the Mediterranean Sea, along the coasts of which it principally lies. Towards the south it is terminated by the desert, but has no definite boundary-line in that direction.

Barbary embraces four distinct territories — Morocco, Algeria, Tunis, and Tripoli : the first-named of these is the most westerly, and lies chiefly upon the Atlantic coast ; the other three are confined to the Mediterranean shores.

(618.) *Natural Features, Climate, &c.*— The great feature of Northern Africa is the system of Mount Atlas, which spreads over the larger portion of the country. In Morocco, wide plains intervene between the foot of the mountains and the Atlantic coast, but in the more eastward territories the level tracts are of limited extent, and in Tripoli the desert advances almost to the shores of the Mediterranean, so as to reduce the cultivable land to a mere narrow strip. The greater part of Barca is a sandy desert, but particular portions of it are very fertile.

The rivers of Barbary are all of short courses, and the channels of many of them become nearly dry during the summer months : the greater number flow into the Mediterranean, but those which rise to the southward of the Atlas lose themselves in the salt-water lakes or marshes of the interior. The climate and natural productions of this part of Africa have been already described (Art. 609).

(619.) The *inhabitants*, as already mentioned, consist principally of the *Berbers*, the *Moors*, and the *Arabs*. The Berbers dwell in villages among the mountains,

and are distinguished by rude and often warlike habits ; they derive their subsistence partly from a limited cultivation of the soil, and in part from pastoral pursuits, combined with the chase. The Arabs dwell mostly in tents, and lead a wandering life : the Moors occupy the cities, and are engaged in the pursuits of trade and commerce, but their disposition is vindictive and treacherous, and their manners, at least towards the Christian part of the population, recluse and unsocial.

To these three races must be added the French, who are the masters of Algeria, and have introduced the customs and civilisation of Europe into that territory. The French took possession of the town of Algiers in the year 1830, since which time they have gradually extended their conquests over the whole territory of which it forms the capital, and have constituted it a French colony. The Turks, who were at one time the rulers of all the Barbary States, are now only a small fraction of the population. Jews are numerous in all the principal towns, but are in general treated with great indignity by the Mohammedans. Negroes are brought from the interior as an article of traffic, and are exposed for sale in the slave-markets throughout Northern Africa.

(620.) *Industrial Pursuits.*—Agricultural produce is generally abundant in the countries of Northern Africa. The soil, which is almost everywhere fertile, yields a surplus of wheat and other grains. Barley is extensively consumed by the cattle and poultry ; maize is grown along the coast, and also in the southern provinces of Morocco. Dhourrah (or millet) is extensively grown in some of the territories now described : fruits and vegetables abound, and constitute a large proportion of the food of the native population. The cultivation of tobacco, and also of indigo and the cochineal-tree, has been successfully tried in Algeria ; the sugar-cane has been attempted, but without success, owing to the frosts occasionally experienced in winter.

A large portion of the country (including all the hilly tracts) is entirely pastoral, and the rearing of cattle—particularly sheep and goats—here forms the employment of the inhabitants. The wool of the Barbary sheep is of excellent quality, and the skins of their goats are made into the finest leather, in the preparation of which the people of Morocco excel.

The last-mentioned branch of industry is the most important among the native manufactures. Various articles of clothing (including the *haïck*—a loose woollen garment universally worn by the Moors and Arabs, and the Arab *burnoose*—a kind of cloak thrown loosely over the head), however, are extensively made ; together with numerous silk and woollen stuffs, shawls, carpets, fire-arms, and gunpowder. Tunis is distinguished in this respect above any other of the Barbary States. Throughout Northern Africa the Jews are the most industrious among the inhabitants of the towns, and exercise many of the principal mechanical callings, as the pursuits of watch-making, jewellery, tailoring, &c.

The native produce of Northern Africa is largely exported in exchange for European manufactures, and the foreign commerce of Algeria has greatly increased in amount since its possession by the French. The

ordinary articles of export from Barbary are wool, goat-skins and leather, gum, wax, olive-oil, coral, leeches, tan-bark, and various fruits; the imports are manufactured goods (from Britain, France, and other European countries), arms, hardware, and cutlery. Besides this trade, considerable commercial intercourse is carried on with the nations of Central Africa, by means of caravans which cross the intervening desert. The merchants of Morocco, Tunis, and Tripoli, bring gold-dust, ivory, gum, ostrich-feathers, and slaves, from the interior of Africa—giving in exchange the cotton-prints and other fabrics of European manufacture, which thus find their way into the very heart of the African continent. The amount of this trade is considerable, particularly that carried on from Tripoli, which forms one of the principal starting-points for the interior.

National Divisions.—1. THE EMPIRE OF MOROCCO.

(621.) Morocco, the largest of the Barbary States, embraces an area of more than 200,000 square miles, and is estimated to have eight millions of inhabitants. It includes the two great provinces of Fez and Morocco, with part of Suse, upon the coast of the Atlantic, and the districts of Tafilalt and Segelmessa, to the east and south of the Atlas. The two latter territories stretch within the borders of the Great Desert, and have only a thin and scattered population; Tafilalt is celebrated for its produce of dates.

The city of *Morocco*, the capital of the empire, stands in the midst of a fine plain which stretches to the foot of the Atlas, and at an elevation of 1500 feet above the sea. It is surrounded by a wall, and has about 50,000 inhabitants.—*Mogadore*, upon the Atlantic coast, is the port of Morocco, and the most commercial town in the empire. *Rabatt* and *Salée*, sea-port towns to the northward of Mogadore, are only separated by the mouth of a river.

Fez (88,000 inhabitants) and *Mequinez* (56,000) are both situated in the northern division of the empire. Fez was formerly the capital of an independent kingdom: its chief importance at the present time is derived from the preparation of red and yellow Morocco leather, of which branch of industry it is the principal seat.—*Al-Araish*, upon the Atlantic coast, and *Tangier*, at the entrance of the Strait of Gibraltar, are sea-port towns of some importance, and the last-mentioned carries on considerable trade.—*Ceuta*, to the eastward of Tangier, has been mentioned as a Spanish possession (Art. 439).

2. ALGERIA.

(622.) ALGERIA, now a French possession, extends along the Mediterranean coast for a length of six hundred miles, and embraces upwards of 100,000 square miles of territory. It contains a native population which exceeds two millions.

to which are to be added 125,000 French and other European settlers.

Algeria is a region of diversified surface. The Atlas, which stretches through the entire territory, is here not so much a mountain-range as a broad plateau, with a rapid descent towards the Mediterranean on the one side, and a more gradual slope in the direction of the desert on the other. The plateau, however, is furrowed by numerous valleys, which are for the most part watered and fertile.

The Atlas region (with its included plains and valleys), and the narrow plain that lies along the coast, are together known in Algeria as the *Tell*, and they comprise all the agricultural portions of the country. The southward slope of the Atlas, on the side of the desert, is called the *Koblah* (i. e. the south), or *Belad el-Jereed*—Land of Dates. This latter tract is arid, and is inhabited by a nomade population.

The capital of the territory is the city of *Algiers* (58,000 inhabitants, more than half of them Europeans), upon the Mediterranean coast. Algiers is built upon ground which rises gradually from the sea, and displays to advantage a succession of streets, terraces, and various structures, ascending one above another. The Moorish part of the town consists of narrow, winding, and dirty streets, but the French have added to its extent, and vastly improved the general appearance of the place. Numerous suburban villages, connected with the city by good roads, stretch into the adjacent country; and both here and in other parts of the territory are visible the exercise of an intelligent and active industry.

Oran, in the western part of the territory, and *Bona*, to the eastward of Algiers, are both small sea-ports. The latter has about 10,000 inhabitants.—*Boujayah*, or *Bougiah*, is a small sea-port town lying midway between Algiers and Bona: the French name for wax-candles (*bougies*) was derived from this place. These articles are still extensively made here, and a good deal of wax is exported.—*Constantine* (25,000 inhabitants), the principal place in the interior, stands on the banks of a rapid torrent called the Roumel, and is a strong fortress.

The French coral-fishery is pursued along the coast to the eastward of Boujayah. A few small forts upon this coast had long been in the possession of France; the destruction of some of these by the *Dey* or native ruler of Algiers was the immediate cause of quarrel between himself and the French government, and the subsequent conquest of his country by the latter power.

3. TUNIS.

(623.) TUNIS, to the eastward of Algeria, has an area of about 50,000 square miles; it is under the government of a ruler styled the *Bey*, and was formerly a province of the Turkish empire.

The chief town, *Tunis*, lies at the head of a shallow gulf or arm of the Mediterranean, the narrow entrance to which is called the Goletta. Tunis is the largest and most commercial city of Barbary, and has

100,000 inhabitants, among whom are 40,000 Jews ; it possesses considerable manufactures of silk and woollen stuffs (embracing shawls, carpets, mantles, bournoses, caps, turbans, coloured handkerchiefs, and numerous other articles), leather, earthenware, soap, and olive-oil.

Thirteen miles to the north-east of Tunis, on the coast of the Mediterranean, is the site of the ancient city of Carthage, now distinguished only by a few heaps of stones and subterranean vaults. In other portions of this territory, and indeed throughout the whole of Northern Africa, are found many remains of Roman antiquity, consisting of amphitheatres, aqueducts, ruins of temples, and other works.

Cairwan (50,000 inhabitants), eighty miles to the south of Tunis, was once the capital of the Arabian empire in Northern Africa.—*Sousah*, *Sfax*, and *Kabes*, are small sea-port towns ; the last of these (situated on the gulf of that name—the *Lesser Syrtis* of ancient geography) is famous for its extensive plantations of henna, which is largely exported.

4. TRIPOLI.

(624.) The narrow territory of Tripoli, which stretches along the coast to the eastward of Tunis, is governed by a *Pasha*, who is nominally a tributary of the Turkish empire.

The town of *Tripoli* (25,000 inhabitants) on the Mediterranean coast, has considerable trade with the interior of Africa. There are a few small sea-ports to the west and east of Tripoli, but no other town of any magnitude. The broad and shallow Gulf of Sidra, within the limits of this territory, represents the *Greater Syrtis* of antiquity—dreaded by the mariner, on account of its loose and dangerous sands. The reference to “the quicksands” in Acts xxvii. 17, applies to this locality.

Barca, a dependent province of Tripoli, upon the east side of the Gulf of Sidra, contains only a few small towns adjacent to the coast, and deriving interest from their remains of antiquity rather than from their present condition. Among these remains the most important are those of Cyrene (now *Grennah*), finely situated on a high plain, and containing a magnificent necropolis, or burying-ground, with the tombs excavated out of the terraces of rock.

(625.) The native governments of Barbary, especially that of Morocco, are of strictly despotic character. The people are generally rude, superstitious, and ignorant, not only of letters, but of many of the habits and usages of civilised life. But both at Tunis and Tripoli considerable advances in civilisation have been made of late years, and the rulers of those states have done much to encourage European influences, and foster the growth of European habits and ideas. The piracies which were formerly carried on by all these states (and particularly by Algiers) rendered them in past time the terror of the neighbouring nations, and were in the highest degree injurious to the trading merchants of the Mediterranean. But severe measures of retaliation for these offences were at various times taken by the English and other nations, and since the conquest of Algeria by France these piratical pursuits have entirely ceased.

The Mohammedan religion prevails universally among the inhabitants of Northern Africa, with the exception of the Jews and the various Europeans settled in Algiers and elsewhere.

SECTION II.—EGYPT.

(626.) *Boundaries and Extent.*—Egypt is situate in the north-eastern part of Africa: it is bounded on the north by the Mediterranean, on the east by the Red Sea, on the south by Nubia, and on the west by the Libyan desert. The lowest of the cataracts (or the first, in ascending the river) marks the frontier between Nubia and Egypt, and from thence to the shores of the Mediterranean, at the foot of the Delta, is a distance (in a straight line) of 550 miles. But the breadth of Egypt—at least, of the habitable portion of the country—is limited, above the Delta, to the immediate valley in which the Nile flows. Assuming the average width of this to be about eight miles, and allowing between six and seven thousand square miles for the extent of the Delta and the irrigated plains which adjoin it on either side, the whole area of the habitable portion of Egypt cannot exceed 11,000 English square miles.

(627.) *Natural Features, Climate, &c.*—The great feature of Egypt is the river Nile, without which the whole country would be a desert. Above the point of the Delta the river flows in a valley which in its widest part does not exceed twelve miles across, and which in the southern part of Egypt is contracted to less than half that width. This valley is bounded on either hand by high rocks, immediately beyond which is the desert,—extending on the one side to the shores of the Red Sea, and on the other into the heart of the continent,—excepting only at one place, where (to the westward of the river) the small and fertile valley of Faioum forms a kind of offset from the Nile valley, with which it communicates by an opening in the western chain of mountains. The valley of Faioum contains the basin of Lake Keroun, which receives a stream from the Nile. The water of Lake Keroun is slightly salt; it is shallow near the land, where the bottom consists of soft mud.

The course of the Nile is generally nearer to the foot of the eastern or Arabian Mountains than to those on the western side of the valley. Throughout Middle Egypt the river is accompanied to the westward by an artificial channel called the *Bahr Yousef*, or *Canal of Joseph*; this is connected with the Nile by numerous small streams, which serve

to distribute the waters over the valley. In Lower Egypt, besides the two main arms into which the river divides (distinguished as the Rosetta and Damietta branches), there are several subordinate streams and channels,—some of them of artificial construction, others the remains of channels which were anciently of more importance than at present.* The whole of the Delta is, in fact, a complete net-work of water-courses, which serve the purposes of an extensive irrigation, and retain the waters of the Nile when the inundation has retired. Along the sea-coast of Egypt are several shallow salt-water lakes; or marshes, the principal of them known by the names of Lakes Menzaleh, Bourlos, and Mareotis: these are only separated from the sea by narrow ridges of sand, the openings in which enable the waters of the Mediterranean to communicate with their basins. The whole of this coast is exceedingly flat, so much so as to be invisible to vessels approaching the land until they have arrived within a very short distance off the shore.

The fertility of Egypt is entirely due to the annual rise of the Nile, which every year overflows its banks and spreads over the adjacent lands, so as to lay the whole country under water. The river annually begins to rise about the end of June, and continues rising until the latter end of September, when its waters remain stationary for a few days, and afterwards gradually retire within their proper bed. At this period of the year the waters of the river are charged with a thick sediment, a portion of which is left as a deposit upon the soil, to which it imparts the most fertilising properties.

The rise of the Nile (to the ancients a source of great astonishment, and a subject of much speculation) is due to the periodical rains of Abyssinia and the countries further south, whence the river derives its waters, and upon the greater or less quantity of which the height of the inundation depends. The height which the stream reaches above its ordinary channel is carefully noted, as the extent of land subjected to irrigation, and the length of time during which it will remain under water, are dependent on this, and the occurrence of a good or bad harvest may hence be predicted with certainty. The height of the waters varies in some degree with the extent of the adjacent valley, and is greater in Upper Egypt (where the valley is of narrower limits) than lower down the course of the stream. At Cairo, just above the point of the Delta, the ordinary rise is about 23 feet; a less rise than this is insufficient for the purpose of the husbandman, and a greater rise sometimes occasions serious mischief to the villages, which are everywhere built on the summits of mounds, so as to be out of the reach of the inundation. In the low plain of the Delta the height of the inundation is of course less considerable, as the waters there spread themselves over a much more extensive space. The limit of the ordinary inundations

* The ancients distinguished seven mouths of the Nile, named (in their order from west to east) the Canopic, Bolbitinian, Sebenytic, Phatnitic, Mendesian, Tanitic, and Pelusiac Mouths. All of these, however, have become partially filled up, or so altered as to be hardly distinguishable, excepting the second and fourth, which coincide with the present Rosetta and Damietta mouths.

(and consequently of the extent of fertilised soil) is marked by a line so clear and well-defined, that in many parts of Egypt it is possible to walk with one foot on a fertile and teeming soil, and with the other upon a barren waste. There is thus no country where nature presents contrasts more striking than in Egypt, or where the transition from the barren rock to the green valley—from the burning desert to the cultivated plain—is so sudden and abrupt.

The waters of the Nile are eminently pure and sweet, and are used by the Egyptians for all the ordinary domestic purposes,—indeed, necessarily so, for there is absolutely *no other* water in the country than that derived from the Nile. But during the inundation (and also for some weeks previously) the river is so charged with sediment that the water requires to be filtered in order to fit it for drinking, and jars of porous earthenware are used for the purpose of cooling and purifying it. The changes in its colour are in the highest degree curious: during the inundation the waters are of a greenish hue; they afterwards change to a deep brownish red, closely resembling the appearance of blood, and again become clear upon subsiding into their ordinary channel. From January to May the river is of a deep blue colour, and its water peculiarly sweet and clear.

The climate of Egypt is hot and dry, excepting near the sea-coast, where the atmosphere is moist. But rain, as previously remarked (Art. 607), is only of rare occurrence, and the extreme dryness of the atmosphere is its most general and striking characteristic. This dryness prevents natural substances from suffering the decay to which they are exposed in most countries: hence the bodies of men and animals have remained for thousands of years in the caves and temples of Egypt with the most perfect preservation of their outward form, though so parched as to crumble into dust upon the slightest touch, and in the sands of the desert bodies are found buried which have lain for centuries without the least appearance of decay. The air of Egypt is healthy, excepting during the occasional prevalence of the hot winds, which blow from the adjacent deserts. The *khamseen*, a wind from the southward, blows at intervals during the months of April and May, and raises the temperature like the blast of a furnace, carrying with it fine particles of sand, which penetrate into every dwelling. During spring and summer the dreaded *simoom* of the desert also occasionally blows, and likewise brings with it clouds of dust and sand.

(628.) *Inhabitants*.—The population of Egypt does not much exceed two millions; seven-eighths of these are of Arabic descent, and the remainder embrace Copts, Turks, Syrians, Greeks, Armenians, Jews, and Franks (that is, Europeans of various nations). The Copts, who are few in number (Art. 614), dwell chiefly in the towns, and are generally employed in offices of trust, as secretaries, clerks, or accountants. The Armenians and the Jews are here, as in other parts of the East, among the most useful and industrious portions of the population, the latter acting chiefly as money-changers, jewellers, brokers, &c. But neither of

these classes are numerous, and the Jews are almost confined to Cairo and Alexandria.

The great majority of the Egyptian Arabs are engaged as *fellahs* or husbandmen, and their social condition is of a very low grade ; they are generally poor, apathetic, and sunk alike in ignorance and indolence — qualities which have resulted from the ages of tyranny and oppression under which they have suffered. Those of them who reside in the towns, and are engaged as artisans and shopkeepers, exhibit a higher degree of intelligence, but credulity and fondness for frivolous amusements are their chief characteristics. When not engaged in their professional or religious duties, they are generally found in the coffee-houses, listening to the story-tellers ; or in places of public resort, where mountebanks, jugglers, serpent-charmers, and dancing-girls, are performing.

(629.) *Industrial Pursuits.*—Egypt is strictly an *agricultural* country. In ancient times it was the granary of the Roman Empire, and in the present day, notwithstanding a wretched system of agriculture, a large surplus of produce is raised in ordinary years. Wherever water can be had, an abundant vegetation springs up, and the chief care of the cultivator is hence bestowed on the irrigation of the soil. The annual rise of the Nile furnishes the principal and almost sole means of irrigation : when the waters of the river retire within their proper bed, the seed is thrown on the softened and fertilised soil, and an abundant crop generally ensues. In those parts which the inundation does not reach, the water is raised from the river by artificial means*, and distributed over the fields ; it is then retained in the numerous ditches and artificial channels, by the aid of dams, and preserved or distributed as occasion may require.

During the inundation (or at the time of *high Nile*) Egypt presents the appearance of an inland sea ; only the mounds of rising ground, upon which the villages are built, and the tops of the trees, then appear above water, and the intercourse of the inhabitants is chiefly carried on in boats. Shortly after the waters have retired, the land is covered with verdure, and the whole country resembles a fertile meadow, which appearance it retains up to the time of harvest (between the months of February and June) : on the termination of the harvest this aspect is replaced by that of a parched, arid, and sandy soil, which it retains until the Nile again begins to rise above the limits of its proper bed.

The chief objects of cultivation in Egypt are grain and cotton : *dhourrah* (a kind of millet) is the most considerable article of produce, but wheat, maize, and rice, are also grown. The culture of the cotton-plant has greatly extended of late years. About a fourth part of the cultivated land is occupied with flax, sugar, dates, hemp, coffee, saffron, tobacco, and the mulberry-tree — of which there are extensive plantations, for the purpose of aiding in the produce of silk. Fruits (including

* These consist of the *sakia*, or water-wheel, and the *shadoof*—the latter being merely a pole and bucket, worked by hand, across a horizontal bar. The shadoof is most common in Upper Egypt. The *sakia* is a wheel with jars attached round the circumference, and is commonly worked by a buffalo.

the orange, lemon, pomegranate, fig, and date) are generally plentiful, and the valley of Faïoum is famed for its produce of roses, from which rose-water is abundantly distilled.

The amount of manufacturing industry is not considerable, nor has Egypt the natural requirements for a manufacturing country, since it furnishes neither coal nor iron. The use of foreign machinery was extensively introduced by Mohammed Ali, but his attempts to encourage the growth of manufactures have not been productive of any permanent results. Coarse linen goods are, however, made in many of the towns, together with carpets and silk handkerchiefs. The potteries of Egypt are extensive, and the manufacture of jars and porous earthenware is an important branch of industry,—chiefly carried on at the town of *Kenneh*, in Upper Egypt.

The foreign commerce of Egypt has greatly extended within a recent period, and the opening of the overland route to India has to some extent made this country in modern times (as it was in ancient) the high-road of commerce between the East and the West. The exports of Egypt to European countries consist of cotton (which forms by far the most important item), rice, wheat, indigo, opium, coffee, gums, and linseed; in return for which the manufactures of France, England, and Germany, are imported, together with machinery, metals, timber, wines, spirits, hardware, and trinkets. Rice, opium, indigo, and drugs, are supplied to Constantinople, Smyrna, the Greek islands, and other parts of the Levant. Alexandria is the great seat of the foreign trade of Egypt. The intercourse with Central Africa is very considerable, and, by means of this, gold-dust, ivory, ostrich-feathers, and slaves, are brought from the interior of the continent. The slave-market of Cairo is the chief source whence the countries lying round the eastern Mediterranean are supplied.

Great attention was bestowed by Mohammed Ali upon the means of internal communication, and his efforts in this respect have been followed up by the later rulers of Egypt. Many good roads have been made, navigable canals constructed, and railways now unite the Egyptian capital with Alexandria, on the coast of the Mediterranean, in one direction, and with Suez, at the head of the Red Sea, in the other.

The *overland route* between Europe and India passes through Egypt, and in doing so avoids the old and circuitous route by the Cape of Good Hope. The steam-engine, upon sea and land alike, is now the agent in effecting the speediest and safest communication between the East and the West. Swift steam-packets traverse the Mediterranean Sea—calling at Malta on the way—and carry the traveller from the shores of Western or Southern Europe to Alexandria. Between Alexandria and Cairo, the journey is continued by railway, the line crossing both branches of the Nile. Another railway traverses the desert tract of country between Cairo and Suez. At the latter place, the route by steam-boats is resumed, and the vessels proceed thence to the various Indian ports, touching on the way at Aden, for a fresh supply of coal.

(630.) *National Divisions: Towns, &c.*—Egypt embraces three divisions—*Lower Egypt*, or *Bahiri*, which consists of the Delta and the adjacent plains on either side of the Nile—*Middle Egypt*, or *Vostani*, which includes the valley of the

Nile from the head of the Delta up to the village of *Manfaloot* (lat. $27^{\circ} 17'$), — and *Upper Egypt*, or the *Said*, which comprehends the remainder of the valley, up to the southern frontier of the country.

Cairo and Alexandria are the only towns of Egypt that offer anything of interest in their modern aspect: the smaller towns and villages are numerous, but are generally in a wretched condition—frequently mere collections of hovels. But the antiquities of Egypt are the objects which impart to the country its enduring attractions, and render the banks of the Nile a scene of the highest interest alike to the student of ancient history, the lover of art, and the philosophic inquirer into the manners and customs of a past which dates from the earliest period in the primeval history of the human race. These wonderful works of ancient art embrace pyramids, temples, colossal statues, obelisks, sphinxes, and other objects, together with a countless variety of sculptures and paintings on the walls of the numerous temples and caves that are cut out of the rocks upon either side of the river's course. In ascending the Nile above the Delta, objects of the kind here indicated succeed one another in varied abundance, becoming more imposing and majestic as the upper part of the valley is reached, and combine with the striking character of the scenery around to throw a charm over the aspect of the whole region, such as belongs to no other country upon the face of the globe.

LOWER EGYPT contains *Alexandria* (60,000 inhabitants), once the most important mart of commerce in the world, and the second city of the Roman Empire in point of magnitude and population. After suffering the decay of ages, Alexandria has recently much increased in size, and has regained some of its former importance: it now possesses a dock-yard and an arsenal, with rope-walks, magazines, and works of every kind requisite for the equipment of a navy. There are likewise a naval hospital, a tribunal of commerce, schools, and many other public institutions. The Egyptian portion of the town is closely built, with narrow, dirty, and crowded streets, but in the Frank quarter there are numerous good residences, with a fine square, round which are the principal hotels. Alexandria communicates by the Mahmoudieh Canal with the town of *Atfieh*, on the Rosetta branch of the Nile. Aboukir Bay, the scene of the great victory gained by Nelson over the French fleet, in 1798, lies a short distance to the eastward of Alexandria.

Rosetta (15,000 inhabitants), and *Damietta* (20,000 inhabitants), at the respective mouths of the Nile, are the two other sea-ports of Egypt; but most of their trade has been diverted to Alexandria. The towns in the interior of Lower Egypt are of small size; *Mehallet*, *Menouf*, and *Tantah*, are among the principal.

(631.) MIDDLE EGYPT.—*Cairo* (or Grand Cairo)*, the capital of Egypt, and the largest city in Africa, is situated a short distance from the east bank of the Nile, and about twenty-five miles above the head of the Delta. It is surrounded by walls, and lies in the midst of gardens and

* Properly "*Al-Kahira*," or "*the victorious*," it having been founded by the Arab conquerors of Egypt, A. D. 970.

groves of mimosas and palm-trees. The interior presents a bustling and animated scene of traffic, in which Oriental manners and appearances are more correctly preserved, and more vividly presented to the eyes of a stranger, than in any other great city of the East in the present day. The streets are narrow—many of them not sufficiently wide to admit of two camels passing abreast, but there is a magnificent open space, or square, in the heart of the city. The bazaars are numerous and splendid, and well supplied with goods of every description. To the westward of the city, on the immediate banks of the Nile, are the suburbs of Fostat or Old Cairo, and Boulak, the latter of which is the port of Cairo: including these suburbs, the total population of Cairo is about 300,000.

To the south-westward of Cairo, and on the opposite (or western) bank of the Nile, is the small town of Ghizeh, in the neighbourhood of which (about five miles to the s. w.) are the three principal of the Egyptian pyramids, justly regarded as the most striking and wonderful structures in the world. The Pyramids are built upon a platform of rock, which rises above the level of the adjacent plain: the largest of them (called the Great Pyramid, or the pyramid of Cheops) is 480 feet in height, rising from a base which measures 752 feet each way, and which covers eleven acres of ground. The second in magnitude is 456 feet high: the third 218 feet. A short distance to the eastward of the second pyramid is the figure of a gigantic sphinx, 125 feet in length. Numerous smaller pyramids occur immediately to the southward of those of Ghizeh, as well as in other parts of the valley of the Nile. The ancient city of Memphis, from the site of which many valuable remains of antiquity have recently been recovered, stood on the banks of the Nile, a short distance south of the Pyramids; the village of *Mit-Raheny* occupies a portion of the site.

In the fertile valley of Faïoum is the town of *Medinet-el-Faïoum*, which occupies the site of the ancient city of Arsinoë. The small towns of *Benisouef*, *Minieh*, and others, occur on the banks of the Nile in this portion of Egypt, but they are of little importance, unless from their proximity to the remains of ancient art.

(632.) UPPER EGYPT.—*Siout*, the largest town in Upper Egypt, lies on the western bank of the Nile, and is the starting point for caravans proceeding to the interior. *Ekhmin* (on the east), and *Girgeh* (on the west bank), are small towns, seen on ascending the river, amidst a succession of wretched villages intermixed with groves of date-trees. Higher up on the east bank, at an angle in the course of the river, are *Kenneh*, and (a short distance above it) *Koft*, the representative of the ancient Coptos. The latter was anciently the starting-point for an extensive caravan traffic, which proceeded thence across the desert to the port of Berenice, on the Red Sea, and from its name that of the modern descendants of the Egyptian race (the Copts) is derived. At the village of *Dendera*, a short distance below *Kenneh*, and on the opposite bank, are the remains of a magnificent temple.

The ruins of *Thebes*, the most splendid among the ancient capitals of Egypt, commence at some distance higher up the river, and extend along its banks on either side for a considerable distance, being irregularly scattered over an area of nearly twenty square miles. The vast size, beautiful execution, and wonderful preservation, of the remains here presented to view, continue age after age to excite the admiration and awe of spectators. The most striking of the ruins are those of Karnak

and Luxor, on the eastern bank of the river, with the Memnonium and Medinet Habou, on the western side. The caves of Gornou — as a mass of hill upon the western side of the Theban plain is called — give shelter to a few degenerate Arabs. Behind Gornou, at the end of a long ravine which winds into the heart of the Libyan mountains, are the Tombs of the Kings, excavated out of the solid rock, and their walls covered with a profusion of paintings and sculptures.

Esnah and *Edfou*, both on the west bank of the Nile, are small towns lying above Thebes ; higher up, at a place where the valley is crossed from east to west by a range of mountains called *Jebel Silsilis*, are vast quarries of sandstone, whence the ancient Egyptians procured a great portion of the materials employed in their wonderful structures. Still further up the valley (here contracted to a mere ravine), upon the east bank, is *Assouan*, the ancient Syene, which lies immediately below the first cataract, and is the frontier-town of Egypt. In the river, opposite to Assouan, is the small island of Elephantine, about one mile in length, and a few miles further south the still smaller island of Philæ, only a quarter of a mile long, and covered with the ruins of majestic temples, intermixed with dense and beautiful foliage. Between these two islands the Nile dashes in rapid eddies and torrents over the assemblage of granitic rocks and islets which forms the first cataract.

(633.) The desert which lies to the eastward of the Nile is frequented by a few tribes of wandering Arabs. At the head of the western arm of the Red Sea is the small town of *Suez*, which lies on the frontier of Asia and Africa. It has fewer than 5000 inhabitants, and is a wretched place, but derives importance from its position. The road between Suez and Cairo passes along the northern foot of a range of hills which extends the whole way to the valley of the Nile ; they bear, in the neighbourhood of Cairo, the name of the Mokattam Mountains.—*Cosseir*, a small trading port on the coast of the Red Sea, communicates by a road across the desert with the town of *Kenneh*, on the Nile. Further south, also on the shores of the Red Sea, are the remains of the ancient port of *Berenice*, whence in the times of the Ptolemies (between the first and fourth centuries prior to the Christian era) the rich produce of the Eastern world was transmitted to *Coptos*, on the Nile.

The Libyan Desert, to the west of the Nile, contains four considerable oases, all of which are included within the Egyptian territory. The largest of them, distinguished as the Great Oasis (Art. 598), is situated to the westward of Thebes : it contains the town of *El-Kharjeh*, which has about 2000 inhabitants. The Western Oasis (or *Wah-el-Dahkel*) lies in the same parallel, but further to the westward. The Lesser Oasis, or *Wah-el-Bahryeh*, is further north, and to the s.w. of the valley of *Faïoum*. The fourth is the Oasis of *Sywah*, situated at a considerable distance to the west (lat. $29^{\circ} 12'$, long. $26^{\circ} 18'$), which contains the celebrated Fountain of the Sun, and the remains of the temple of Jupiter Ammon, one of the most renowned oracles of antiquity.

(634.) The government of Egypt is an hereditary pashalick, under the successors of the late Mohammed Ali, but owning a nominal subjection to the sovereignty of Turkey. Egypt owes its importance in modern times entirely to the energies of the late pasha, whose active and vigorous administration reformed many of the evils under which the country had laboured during centuries of Turkish misrule, introduced order and

security of property where formerly there had been injustice and anarchy, and called into existence many institutions (based upon European models) calculated to meet the wants of an improving and progressive condition of society. He founded schools, colleges, and hospitals, established workshops, factories, and arsenals, built ships, made roads and canals, and rendered travelling through the deserts adjacent to his dominions (previously attended with the greatest danger) as practicable and as safe as journeying in the most civilised countries of Europe. But all this was accomplished by a disastrous drain upon the resources of the country, and in many cases by a fearful sacrifice of human life, while the wars in which he was almost continually engaged helped to exhaust the revenues of Egypt, and to carry off large numbers of the male population. Added to which, the monopolising system pursued by the pasha in reference to every department of industry prevented his improvements from realising their due effect, and interfered with the natural course of trade. The opening of the overland route to India has, however, given Egypt a degree of importance in relation to European nations (and especially in reference to Britain) which must prevent its being allowed to relapse into the weakened and almost barbarous condition from which it was raised by the exertions of Mohammed Ali.

The great majority of the people of Egypt are Mohammedans in religion; the Copts are Christians, under the spiritual government of a patriarch resident at Cairo.

SECTION III. — NUBIA.

(635.) *Boundaries and Extent.* — Nubia extends southward from Egypt to about the 11th degree of latitude, where it borders on Abyssinia: on the east it is bounded by the Red Sea, and on the west by the Libyan desert.

(636.) *Natural Features, Climate, &c.* — In Nubia, as in Egypt, the river and the desert form the principal features of the country. But the valley of the Nile is here narrowed to a mere ravine, and the strip of cultivable land along its banks is proportionately diminished: in some cases, indeed, the sands of the desert come close up to the edge of the river. The southern part of Nubia, however, is an elevated tract of more varied character, and the regions watered by the Blue Nile and the Atbara (which are within the influence of the tropical rains) consist of vast plains or savannahs, alternating with forests of immense extent.

The Nubian Desert, to the eastward of the Nile, consists of rocky hills, divided by the beds of ravines which are dry for the greater portion of the year. The desert of Bahiouda (a portion of the great desert region which lies on the western side of the Nile) is of less sterile character, and contains some wells of good water — though in small quantity.

Within Nubia the Nile does not overflow its banks, as in Egypt, owing to their greater height above the level of its bed; and, as scarcely any rain

falls within the northern part of the country, irrigation has to be accomplished by artificial means. A vast number of *sakias*, or water-wheels, are employed for the purpose of raising the water from the river.

The climate of the greater part of Nubia is intensely hot and dry. Among its natural productions, the most common are the acacia, mimosa, and date-palm; in the forests to the southward the ebony-tree is abundant. The sugar-cane abounds along the banks of the Nile, but is not cultivated. The senna-plant is common, and its produce exported. Wild dogs and foxes are numerous, and the elephant, rhinoceros, gazelle, ostrich, and giraffe, all extend their range within the limits of this country.

(637.) *Inhabitants*.—The people of Nubia embrace many different tribes, the majority of whom are described as being naturally a fine, strong, hardworking, and industrious race—superior in social qualities to the depressed and degraded *fellah* population of Egypt, though in a very rude condition of life. Their villages are merely poor collections of huts, built of mud, and covered with the leaves of the palm tree. A cloth cap, and a slight woollen mantle, or cotton shirt, form almost their only apparel. Towards the upper or southern parts of the country the proper Nubians become mixed with nations of Negro descent, and in the south and south-west there are pure negro tribes.

(638.) The *industrial pursuits* of the Nubians are few and simple: *dhourra* is almost the only grain cultivated, and, with the fruit of the date, forms the chief article of subsistence. Some tobacco is also grown. Sheep are numerous, and the camel is abundantly used as a beast of burden. A few woollen and cotton cloths, with mats of cane, and cooking utensils, are the only articles of manufacture.

The commerce of Nubia is almost wholly a transit trade, the caravans which exchange the merchandise of Egypt for the gold-dust, ivory, and slaves, of Central Africa, necessarily passing through this territory. The traffic in slaves is the most important, slave-hunting expeditions being fitted out for the express purpose of carrying on this unnatural and iniquitous pursuit.

(639.) *Divisions, Towns, &c.*—Nubia formerly embraced numerous small native kingdoms, each under its own sovereign or chieftain, the limits of whose authority were in some instances confined to a single town or a few adjoining villages. Of late years the whole country has been subject to the authority of the Pasha of Egypt, who rules it by means of a viceroy, resident at Khartoom. The government is strictly a military despotism. Most of the people of Nubia are Mohammedans in religion; but the negro nations in the upper part of the country are pagan.

Above the Egyptian frontier, a succession of villages and date-groves extend along the banks of the Nile, but there are few places of much importance, and no towns of any magnitude. *Ebsamboul*, on the west bank, possesses a magnificent temple, cut out of the solid rock: a short distance higher up is the Second Cataract, or Wady Halfa. Above the Third Cataract, and on the west bank of the river, is the town of *New Dongola* (6000 inhabitants), which is a thriving place, with bazaars supplied from Cairo. *Old Dongola*, further up the stream, upon the opposite bank, has been covered by the encroachments of the sand, and is chiefly in ruins.

Near the village of *Meraweh* (upon the western bank of the Nile), on

an eminence called *Jebel Berkel*, are numerous temples and pyramids ; and at *El-Bellal*, on the opposite bank, there are several pyramids of much larger dimensions, though still very inferior in size to the vast structures of Egypt.—The town of *Ssendy*, on the east bank of the Nile, below the Sixth Cataract, is a considerable mart for slaves ; near it are numerous pyramids and a ruined temple, supposed to mark the site of the ancient city of *Meroë*.

Khartoom, nearly at the junction of the two arms of the Nile, has 30,000 inhabitants, and is the largest town in Nubia ; it is a place of rendezvous for the slave-caravans from all parts of the adjacent country.—*Sennar*, on the Blue Nile, formerly the capital of an independent kingdom, is now decayed.—The only sea-port of Nubia is *Souakin*, on the west coast of the Red Sea ; it has a good harbour, and possesses some trade—chiefly in slaves.

(640.) To the south-west of Nubia is *KORDOFAN*, a country situated to the westward of the White Nile, and subject to the Egyptian pasha. It consists of an assemblage of small oases : the inhabitants are chiefly negroes, partially occupied in agriculture. The principal people, however, are the slave-merchants : the chief town is called *El-Obeid*.

SECTION IV. — ABYSSINIA.

(641.) *Boundaries and Extent*.—Abyssinia lies to the south-east of Nubia, and extends from the shores of the Red Sea and the Gulf of Aden over the upper basins of the Blue Nile and the Atbara. Its southern and western limits are fluctuating, and admit of no precise definition, but the whole country probably embraces an area of not less than 200,000 square miles.

(642.) *Natural Features, Climate, &c.*—Abyssinia consists of an alternation of plateaus and high mountain-chains (Art. 597) : the table-lands are intersected by deep ravines, which lie between vast walls of perpendicular rock. These ravines are traversed by numerous torrents, the waters of which contribute to swell the stream of the Nile. In many cases the rivers form waterfalls of great depth ; and in this, as well as in several other respects, the external features of the country are those of an Alpine region.

Next to the tributaries of the Nile, the most important river of Abyssinia is the *Hawash* (near the eastern frontier), which has a course of 240 miles in a north-easterly direction, and is finally lost in a marshy lake : its banks are throughout marked by luxuriant vegetation. The large lake of *Dembea*, and also the salt lake of *Assal*, have been already mentioned (Arts. 601, 605).

Iron, copper, sulphur, coal, and salt, are among the mineral productions of Abyssinia ; but the first and last are the only ones turned to any

profitable account. The climate is intensely hot in the lower plains and valleys, as well as on the shores of the Red Sea; but the upland plains have a moderate and delightful temperature. The rains, which occur between the months of June and September, fall with great violence, and swell the torrents that pour down the mountain sides. Both domestic and wild animals are very numerous.

(643.) *Inhabitants.*—The people of Abyssinia embrace many distinct tribes and races, most of whom are in an extremely rude and barbarous condition. The most powerful of these in the present day are the Galla—a savage race who have overrun all the southern and south-eastern parts of the country, and possess some of its finest provinces. The inhabitants of the central and northern provinces are a superior race to the Galla, both physically and socially, and resemble in feature the Bedouin Arabs.

Nearly all the Abyssinians vary in colour between a dark and a yellowish brown: the only people of black complexion are the negroes, who are all slaves. The Galla, and also other tribes, are brave and skilful warriors; but in dress, manners, and ordinary modes of life, the Abyssinians exhibit a coarse, low, and barbarous condition of society. Among other savage practices, that of eating raw flesh (while yet warm and quivering with life) at their feasts, is one of the most revolting. The little value set upon human life is another striking evidence of the barbarous condition of the Abyssinians. The dead bodies of criminals and others are left in the streets, to be devoured by the dogs and hyenas.

Most of the people of Abyssinia profess the Christian religion, which is here, however, obscured by superstitious and ignorant ceremonies, and exercises little influence on their conduct. In some of the provinces, the Mohammedan worship prevails: the Galla are pagans. There are a few Jews in some parts of the country.

The total population of Abyssinia is estimated at between three and four millions.

(644.) *Industrial Pursuits.*—Most parts of Abyssinia are extremely fertile, and the soil yields spontaneously many of the finest vegetable productions of the torrid zone. Millet, wheat, barley, maize, and a grain called *teff*, are all grown. The bread made from the latter, which is a weak herbaceous plant, yielding a small seed, is a favourite article of food. Flax and cotton are cultivated to a small extent. Fruits and vegetables are abundant, and the vine is reared in some districts. The coffee plant, which is native to the country, is also cultivated; the sugar-cane grows in the low grounds, but its stalk is merely chewed, the art of making sugar being unknown.

The domestic animals embrace horses, oxen, sheep, goats, mules, and asses. Immense herds of oxen are met with in the plains, some of them distinguished by horns of prodigious size.

The making of coarse cotton and woollen cloths, the tanning of leather, and the manufacture of pottery, are all practised, though only on a limited scale. Sword-blades, knives, scissors, and spear-heads, with other descriptions of hardware, are also made; and (notwithstanding their barbarism in other respects) the Galla exhibit in these arts a skill superior to that of the other Abyssinian nations.

The commerce of the country—once considerable—has been greatly

reduced by the state of anarchy in which it has long been placed, and the continual prevalence of internal warfare. Gold, ivory, and slaves are brought from the interior of Africa ; carpets and silks from Persia ; and some articles of European manufacture (including velvets and French broadcloths, with glass beads and other ornaments from Venice) find their way hither through the medium of Egypt.

(645.) *National Divisions : Towns.*—Abyssinia was formerly a powerful kingdom, but has long since been broken up into several independent states, each under distinct chiefs, whose power depends wholly on the success of their arms. The principal of these are the kingdoms of Tigre, Amhara, and Shoa, the last of which (towards the south-eastern part of the country) is at present the most powerful and important.

The town of *Adowa* (8000 inhabitants) is situated in the province of Tigre, standing upon a plain which is elevated upwards of 6000 feet above the sea. It lies on the line of route between Gondar (the capital of Amhara) and the port of Massowah, on the Red Sea, and hence commands some caravan trade. At *Aroum*, situated to the w. by s. of Adowa, are some remains of Grecian art. *Antalo*, in the same province, is the residence of the sovereign of Tigre. *Massowah*, situate on a small island upon the western shore of the Red Sea, carries on the chief foreign trade of the country, and nominally belongs to the pasha of Egypt : opposite to it, on the mainland, is the town of Arkeeko.

Gondar, the capital of Amhara (6000 inhabitants), stands in a fine plain to the northward of Lake Dembea, at a height of 7600 feet. It was formerly of much larger size, and greater importance, than at present.—*Ankobar*, the chief town of Shoa, lies on the eastern slope of the Abyssinian highlands, towards the basin of the Hawash : its population fluctuates between five and fifteen thousand, with the absence or presence of the court.

To the south of Abyssinia are several semi-barbarous and little-known countries, in many of which the Galla are the ruling people. These territories appear to resemble Abyssinia in most of their natural features, consisting principally of high undulating plains and mountain-masses, traversed by numerous streams. The rainy season is here earlier than in Abyssinia ; the rains commence in April, and the rivers are full by the month of June. One of the principal of these countries is the kingdom of Enarea, celebrated for its extensive woods of coffee. The people of Enarea manufacture cloths with ornamented borders, and display much skill in making daggers and other weapons, the ivory handles of which are tastefully inlaid with silver ; they enjoy the reputation of being the most civilised of all the Galla nations.

SECTION V. — THE SAHARA, OR DESERT.

(646.) The natural features of that vast belt of desert which stretches across Africa, between the Nile and the

shores of the Atlantic, have been already referred to (Art. 598).

The only valuable produce of the desert is *salt*, vast rocks of which occur in its western division. In the more completely sterile tracts, both vegetable and animal life are almost unknown; but the date-palm flourishes in the few and distant oases. The lion, panther, hyena, and other wild animals, roam over the outskirts of the wilderness, and the ostrich and antelope penetrate the tracts which lie farther in its interior, their swiftness of foot enabling them to reach, with comparative facility, the distant watering-places.

In the middle of this region, to the southward of Tripoli, is the large territory of Fezzan, which, although destitute of rivers, yet has numerous springs, and is sufficiently distinguished from the surrounding waste to be regarded as an oasis. Abundance of water is found by digging to the depth of a few feet below the surface, and the means of irrigation thus obtained are sufficient for the growth of corn, with herbs and vegetables, besides whole forests of the date-palm.

The chief commercial intercourse between northern and central Africa lies through Fezzan, and numerous caravans from Tripoli (on the Mediterranean coast) traverse this territory on their way to the interior; yet so monotonous and dreary is the aspect of the country, and so destitute are portions of it of anything like a beaten track, that small pyramids of stones (collected with facility from the surrounding surface) are often the only guiding mark for the camel-driver by day, while the stars afford the sole indication of his course at night.

Fezzan constitutes a separate state, ruled by a sultan, who is tributary to the pasha of Tripoli. The people, who appear to be a mixed race, intermediate between the Arab and Negro stocks, amount in all to about 70,000 or 75,000. The principal town in the territory is *Mourzook*,—a small place surrounded by mud walls, and containing 2000 inhabitants,—the sole importance of which is due to its being the point of rendezvous for numerous caravans to and from the countries of Barbary, Egypt, and Central Africa.

A people called the *Tibboos*, who are nearly as dark in complexion as the negroes, dwell in the desert to the east and south-east of Fezzan. They live chiefly on the milk of their camels, and the scanty produce of a few scattered oases, the frequent plunder of travellers who pass through their territory being combined with other occupations.

The *Tuareicks*, a more numerous and warlike people than the Tibboos, are found to the westward of Fezzan. Their flocks, together with the pursuit of traffic and plunder, furnish their chief means of subsistence, and their frequent incursions into the adjacent territories render them the terror of their neighbours. Several small oases occur within the range over which their wanderings extend, among which are those of Ghat, Ahir, Asben, and Aghades.

Upon the northern skirts of the desert is the small oasis of Ghadamis, and further to the west that of Tuat; the latter of these is of considerable extent, and contains the towns of Agably and Ain Saleh.

Tandeny, Tagazza, Walet, Tisheet, and Gualata, are small towns, with surrounding oases of limited extent, lying in the more western part of the Sahara, and constituting resting-places (at long intervals

apart) for the caravans by which it is crossed. This portion of the desert is thinly inhabited by tribes of Moors (partly of Arabic descent), who are in general cruel and ferocious plunderers. The trade between Morocco and Timbuctoo passes through their territory.

SECTION VI. — CENTRAL AFRICA.

(647.) *Boundaries and Extent.* — Central Africa embraces the basins of the River Quorra and Lake Chad, extending from the mountainous region which divides the waters of the Quorra and the Senegal, on the west, to the meridian of 26° on the east; and from the Great Desert, upon the north, to the Mountains of Kong on the south. This vast area measures two thousand six hundred miles from east to west, and about six hundred miles in a north and south direction.

The whole of the above territory is included within the region known as *Soudan* (i. e. the land of the blacks) or *Negro-land*, which comprises also the countries of Senegambia and Guinea, upon the western coast of the continent, and derives this name from its being the native seat of the black or negro variety of the human race.

(648.) *Natural Features, Climate, &c.* — Central Africa, in so far as it is known, consists of a great plain, or succession of plains, — the western half of which is watered by the Quorra and its tributaries, while the eastern includes the basin of Lake Chad. The climate and natural productions of this part of the continent have been already noticed (Arts. 607, 610).

(649.) *Inhabitants.* — The population of Central Soudan (as this part of Africa may with propriety be designated) is divided between people of pure Negro blood, and the Foulahs (or Fellatahs), who are a mixed race — partly of Negro origin, and in part of Berber or Moorish descent.

The Fellatahs have a reddish-black complexion — less dark than that of the Negroes, with longer and less woolly hair, noses less flattened, and lips not quite so thick. They are the ruling people in the countries which lie between the Quorra and the shores of Lake Chad, and are also found in other parts of Soudan, but are everywhere less numerous than the Negro tribes. They appear in general to be a people of mild and flexible dispositions, and display a natural aptitude for agricultural pursuits.

The genuine Negro races are all in a low state of civilisation (if, indeed, they can be said to have emerged from barbarism), practising only the simplest arts, and living generally in a homely and primitive

manner, though by no means devoid of some rude attempts at display and barbaric splendour. Their habits, however, are settled, and they are everywhere cultivators of the soil—the Negro being in this respect strikingly distinguished from many of the native races both of Asia and the New World.

A light-hearted gaiety and love of amusement forms a strongly-marked characteristic of the Negro, and one which he preserves under all changes and circumstances, even of the most adverse kind. Music, the song, and the dance, are the universal recreations, and during the hours of the evening and early night (after the heat of the day has passed) the whole of tropical Africa is a scene of festivity and rejoicing.

The Negroes are generally fond of gain, and will undergo many hardships in its acquisition; they are also patient under misfortune, and meet affliction with fortitude. Frugality and temperance in eating generally prevail. They are naturally fond of oratory, and on occasions of strong excitement are capable of displaying much feeling and energy. The Negro is, however, in a much less degree the creature of impulse than the Indian of the New World; his temperament is more regular and equal, and his passions less violent. The Negro women are industrious, and remarkably prolific.

The pursuits of industry are on a limited scale in this part of the world. Agriculture is generally practised, though in the rudest manner, and the fertile soil of Soudan readily yields enough—and more than enough—to supply the wants of the inhabitants. Rice and other grains, with numerous fruits, are plentifully grown (Art. 610), and both cotton and indigo are produced in some abundance. Great skill is displayed by some of the natives of Soudan in the manufacture of cotton cloth, which is beautifully woven, and skilfully dyed either with fine indigo, or with a bright yellow colour, obtained from a plant which grows wild upon the banks of the Quorra, and also along parts of the coast. The people of Loggun, to the south of Lake Chad, and those of Nyfi, on the east bank of the Quorra, appear to excel in this art, which is practised chiefly by the strictly Negro portion of the population. Many articles are also woven of silk, obtained principally from the Arab caravan-merchants, though some native silk is produced in a raw state. Mats are extensively made, and are in universal request, both for sitting and sleeping.

The commercial intercourse between Central and Northern Africa has been already referred to (Art. 620). Soudan furnishes gold, ivory, ostrich-feathers, and *slaves*; and the last, unfortunately, are the articles most extensively in demand, and the commodity in which the native African merchant most profitably invests his capital. The slave-trade is, indeed, everywhere the curse of Negro Africa, and the bane of every effort at improvement of its social condition. Continual wars are undertaken by the numerous petty sovereigns amongst whom tropical Africa is divided, with the sole object of procuring prisoners to be sold into slavery; these unhappy victims are afterwards marched across the desert (chained in gangs, and suffering incredible hardships, to which vast numbers of them fall a sacrifice, by the way,) to be exposed in the slave-markets of Cairo and other large cities of the East. Upon occasions of pomp and rejoicing, as well as on those of sorrow,—such as the death of a chieftain or monarch,—the lives of those who have been taken prisoners in these marauding expeditions are ruthlessly sacrificed.

The governments of the numerous petty states into which this part of Africa is divided are all despotic,—a council of the chiefs and principal men assisting the deliberations of the monarch upon occasions of importance. The limits of the different states are continually fluctuating, and they rarely embrace any considerable extent of country.

The Fellatahs, and also some of the Negro tribes, are followers of the Mohammedan religion, in its worst and most corrupted phases. But the greater number of the Negroes are idolators, in the practice of fetishism,—that is, the worship of numberless objects to which a superstitious idea of reverence (whether from its good or evil qualities) becomes attached, and each of which is held to constitute a fetish. Thus a tree, a river, an animal,—in short, any object, whether animate or inanimate, in which the ignorant and simple-minded Negro perceives qualities more than ordinarily calculated to arrest his fear, his reverence, his gratitude, or his affection,—is invested by him with the sacred character of a *fetish*, and made the object of a worship which in our happier spirit of intelligence and divine enlightenment we are taught to address to the Being by whose wisdom and power it was called into existence. The influence possessed over the Negroes by their priest is very great, indeed almost unbounded, extending in some cases even to the power of life and death.

(650.) *National Divisions, Towns.*—Among the numerous states of Central Soudan the principal are the kingdoms of Bambarra, Jenneh, and Timbuctoo, along the upper course of the Quorra; — Borgou, Yaouri, Rabba, and Nyfi, on the middle portion of that river; — Houssa, Kashna, Kano, and Mandara, further to the eastward; — Bornou, Loggun, Beghermeh, and Kanem, more immediately adjacent to the shores of Lake Chad. The more eastern portion of Soudan contains Waday or Dar Saley, with Darfour, and other little-known territories which adjoin the basin of the Upper Nile.

Bambarra, a territory of large extent, includes the towns of *Sego*, on the Quorra, said to have 30,000 inhabitants; and *Bammakoo*, a commercial place further up the river.—The town of *Jenneh*, the capital of a separate state, on an island formed at the junction of a tributary of the Quorra, is described as a seat of extensive traffic.—*Timbuctoo*, a large open town, three miles in circuit, is situated in a sandy plain about eight miles to the north of the Quorra; it is a great station for caravan traffic, but of less consideration and importance than it was formerly reputed to possess.

Borgou embraces several petty kingdoms, one of which includes the town of *Boussa* (12,000 inhabitants), on the right bank of the Quorra. It was at this place that the celebrated traveller, Mungo Park, was killed by the natives, while descending the river in a canoe.—The town of *Rabba*, lower down, on the left bank of the river, is a great seat of trade. Below Rabba is the town of *Egga*. Some distance to the south of Egga, the Quorra is joined by the stream of the Chadda, upon either side of which there are small native kingdoms, with numerous towns and villages.

The large territory of Houssa, now divided into several kingdoms, is the chief seat of the Fellatah power: its principal town is *Saccatoo* (on a tributary of the Quorra), which has about 20,000 inhabitants. — *Kashaa* and *Kano*, situated further to the eastward, are towns of some magnitude, and the latter is one of the chief commercial marts of Central Africa.

The kingdom of Bornou, on the western bank of Lake Chad, contains the towns of *Kouka* and *Angournou*, the latter of which is said to have 30,000 inhabitants. To the south and south-west of Bornou is the territory of Adamawa, one of the finest countries of Central Africa. It is watered by the upper course of the Chadda, and consists of extensive valleys, which form rich pasture-grounds, and are full of cattle. The capital of Adamawa is called *Yola*, which stands in a marshy plain, amidst pastures and cultivated fields.

The countries in the more eastern part of Soudan are scarcely known to Europeans, excepting by name: the chief town of Waday or Dar Saley is called *Warra*, said to be a place of large size; the capital of Darfour is *Cobbe*, a great place of resort to the caravan-merchants.

SECTION VII. — WESTERN AFRICA.

(651.) *Extent, Natural Features, &c.*—Under the general name of Western Africa are comprehended the Atlantic coasts, between the parallels of 18° north and south latitude, —a vast range of territory, bounded on the one side by the ocean, and on the other by high mountain-chains which divide it from the elevated regions of the interior. In general, extensive tracts of lowland stretch along the shore, but in some cases, as at Sierra Leone (Lion's Hill) and elsewhere, the mountains approach nearer to the coast, and project bold promontories into the waters of the ocean. The mouths of numberless rivers, estuaries, and creeks, occur along the coast, hidden in many cases under a dense mass of the rankest vegetation. Amongst these, the rivers Senegal, Gambia, and Quorra, to the north of the equator,—and the Congo and Coanza, to the south of the line,—are the most considerable.

The climate and natural productions of this region have been noticed in Arts. 607—610. The climate is generally regarded as surpassing that of any other portion of the globe in its deadly influences upon European constitutions, and although particular localities may present exceptions to the truth of this remark, yet, on the whole, there is no doubt of its accuracy,—as, indeed, the numerous deaths which occur among the white residents too fatally prove.

(652.) *Inhabitants.*—The population of Western Africa is almost wholly Negro, mixed with a few residents from various European nations. The general features of Negro life are everywhere uniform, but some of the nations of the western coast—those of Ashantee and

Dahomey in particular—appear to excel others in the ferocity and barbarous cruelty of their practices, at the same time that they exhibit in many respects an intelligence and ingenuity superior to that of their brethren in the interior of the continent.

The disregard of human life in these countries is truly frightful; human skulls form the common ornaments of their dwellings and public places, the lives of human beings are sacrificed in honour of their fetishes or imaginary deities, and, on occasions of rejoicing, human victims are slaughtered to gratify the brutal and debased passions of a degraded and blood-thirsty mob. Owing to this reckless sacrifice of life (which is itself a consequence of the ferocious and devastating wars carried on for the purpose of supplying the demands of the slave trade), the population of many parts of Western Africa is exceedingly thin, though so vast a region doubtless contains in the aggregate a large number of human beings.

Agriculture is extensively practised by the Negro population of many parts of Western Africa, and often with considerable care,—the processes of sowing, reaping, &c., being well conducted, and the fields neatly enclosed. Plantations of the finest fruit-trees occur in the neighbourhood of the villages. Cows, sheep, goats, and poultry, are abundant; the horses are of small size,—the asses large and numerous. The making of cotton cloth, coloured with blue or yellow dyes, is the most general occupation of manufacturing industry. The people of Ashantee also exhibit some skill in the fabrication of earthenware, in tanning leather (chiefly goat and sheep skins), and in the working of metals; they make good sword-blades, as well as numerous articles ornamented with gold.

The coasts of Western Africa are visited for commercial purposes by the ships of European nations, several of whom have permanent settlements here. Gold-dust, ivory, palm-oil, gums, feathers, and various kinds of ornamental or dye-woods, are the articles of legitimate commerce, and are exported from most parts of the coast to the northward of the equator. Slaves are extensively in demand, for the purpose of working in the plantations of Cuba, and the traffic in human beings is still carried on, especially from the coasts to the southward of the equator.

The articles supplied by Europe to Western Africa are gunpowder, fire-arms, tobacco, spirituous liquors, with cotton cloths, and other textile fabrics—those of bright and gaudy colours being selected as most attractive to the negro taste. Iron bars, copper and brass rods, beads, knives, hatchets, soap, earthenware-jars, iron pots, horn and pearl buttons, &c., are also among the articles supplied to the negro market. The whole amount of this traffic is inconsiderable, and it is capable of very considerable extension. But the unhealthiness of most parts of the coast, and the unsettled condition of the native governments, are obstacles in the way of legitimate commerce.

The native governments of Western Africa are in most cases pure despotisms. The different states are continually engaged in ferocious wars,—or rather slave-hunts: in Dahomey (and also in other states) the nation is annually levied *en masse*, forays are led against some adjacent tribe or nation, villages are destroyed, and the aged and young murdered, while thousands of prisoners are dragged off to be sold to the slave-merchant, or sacrificed to the barbarous rites of fetishism.

(653.) *National Divisions, Towns, &c.*—The coasts of Western Africa, to the north of the equator, are divided into SENEGAMBIA, or the country watered by the rivers Senegal and Gambia,—and GUINEA, which lies along the gulf of that name. The meridian of Cape Mount ($11^{\circ} 50'$ w. long.) is regarded as marking the line of division between these territories.

Senegambia is possessed by a great number of petty native states, all embraced within the three great branches of the negro race distinguished as the Jaloofs, the Foulahs, and the Mandingoes. The Jaloof States are situated in the more immediate neighbourhood of the Lower Senegal and Cape Verde. The Foulah States lie higher up the Senegal, and in the mountainous tract to the south-eastward of that river, embracing the sources of the Gambia and other streams.

The Mandingo States also lie in the neighbourhood of the Upper Senegal, as well as to the eastward of its course. The territory of Bambouk, in this part of Africa, is noted for its rich gold mines, and contains a dense population; it was for a short period of time (in the 15th century) in the possession of the Portuguese, remains of whose forts are still to be seen.

(654.) Upon the borders of Senegambia and Guinea, extending for some distance along the coast, and reaching as far as 80 miles into the interior, is the territory of LIBERIA, an independent Negro republic, which was founded by the United States in the year 1820, as an asylum for such of the black population of that country as had attained their freedom. After struggling with many difficulties during the earlier years of its existence, this settlement is now in a flourishing condition, and has a population of 250,000,—all negroes.

The fundamental principle of the Republic of Liberia is that the existence of slavery cannot be recognised in any form whatever, and that every effort should be made to direct the industry of the native African race into legitimate channels, with a view to diminish, and ultimately to destroy, the iniquitous traffic in slaves. A considerable amount of success has attended these efforts, and large numbers of the Negro population of the interior obtain their supply of European goods through its means. Agriculture is extensively pursued, and the commerce of the republic is largely increasing.

The government of Liberia is modelled upon that of the United States of America: it has a president (of the native African race), with a senate and a chamber of representatives. The town of *Monrovia*, upon the high promontory of Cape Mesurado, is the capital of the republic. To the south-east of Liberia is the Cape Palmas Settlement, also a colony of free negroes, which, however, has hitherto been less successful, and does not as yet number much above 1000 inhabitants.

(655.) The coast of Guinea was formerly divided by European traders into the *Grain Coast*, the *Ivory Coast*, the

Gold Coast, and the *Slave Coast*. The Grain Coast* is now principally included within the territory belonging to the state of Liberia. The Ivory, Gold, and Slave Coasts extend in succession from the eastward of Cape Palmas to the delta of the Quorra: but, excepting in regard to the Gold Coast, these appellations are now rarely used.

Of the native states upon the Guinea Coast, the two most powerful are Ashantee and Dahomey. Ashantee embraces a great part of the Gold Coast, and extends for between two and three hundred miles into the interior; its chief town is *Coomassie* (15,000 inhabitants), at a distance of 120 miles from the coast, and said to be the centre of a great trade with the interior.

The kingdom of Dahomey, to the eastward of Ashantee, extends for 180 miles along the coast, and into the interior as far as the Kong Mountains, which constitute its northern frontier: its whole population, however, does not exceed 200,000 persons, out of whom only 20,000 are free. Among the army of Dahomey is a troop of 5000 female warriors, or Negro Amazons, as they may well be termed. *Abomey*, the chief town of Dahomey, in the interior, has 30,000 inhabitants. *Whydah*, a port on the coast, is a notorious resort of the slave-traders.

Upon the Ivory Coast, intermediate between Cape Palmas and the Ashantee territory, are *St. Andrew's*, *Grand Lahou*, and *Grand Bassam*, all native towns, and the seats of some trade. These portions of the African coast are inhabited by the Kroo-men, a negro race who are distinguished by their skill as boatmen, and make good sailors.

Among numerous other small states upon the coast of Guinea are the kingdoms of Badagry, Yarriba, Lagos, Benin, Eboe, and Bonny,—all situated to the eastward of Dahomey, and the three last-mentioned lying among the various streams which form the delta of the Quorra. The town of *Badagry* had a few years since 10,000 inhabitants, but it has declined in importance, and *Lagos* (further to the eastward) is now the principal trading-port on the coast. *Abbeoukouta*, in the kingdom of Yarriba (sixty miles N. E. of Badagry), is said to have 80,000 inhabitants; it lies in the midst of a well-cultivated and productive country, which supplies abundant crops of yams, beans, and Indian corn. *Bonny*, on a narrow creek of the channel called Bonny River (one of the branches of the Quorra), is only a wretched collection of huts: large quantities of palm-oil are exported from this part of the coast.

To the eastward of the Quorra, and extending round the shores of the Bight of Biafra, are Old Calabar, Cameroons, and Gaboon rivers, upon all of which are native towns, possessing some share in the traffic pursued upon these coasts.

(656.) The European nations who possess settlements or

* The Grain Coast derived its name from a species of pepper produced there in great abundance, and the others from being resorted to for the various commodities which their names indicate.

trading stations upon the west coasts of Africa to the northward of the equator are the English, French, Dutch, and Portuguese. A few forts on the Gold Coast which formerly belonged to Denmark were purchased by the British Government in the year 1850.

1. The most important of the BRITISH settlements is SIERRA LEONE, a mountainous peninsula on the coast of Senegambia, and comprising an area of two hundred and thirty-two square miles. Upon the north-east it is bounded by the estuary of the river Rokelle, which forms a deep and capacious harbour. The surface of Sierra Leone presents an irregular mass of peaked mountains, covered to their summits with lofty forest-trees, and divided by fertile valleys and meadows. It was formerly held in evil repute on account of its climate; but the dangerous qualities of this have been in part mitigated by the clearance and cultivation of the ground, and, with the exercise of proper care (and especially of temperate habits) on the part of the settler, Sierra Leone is not more unhealthy to Europeans than countries situated within the tropics are generally found to be.

The colony of Sierra Leone was founded by Britain in 1787, as a place of refuge for liberated negroes, and as a means of diffusing civilisation over the adjacent regions of Africa. Its advance has been slow, but it now contains a population of 56,000 blacks (together with a few white settlers) under the charge of a governor appointed by the British Crown. The capital of the settlement is *Freetown*, situated at the northern extremity of the peninsula, over which are scattered numerous villages.

The *Isles de Los*, a small group lying about sixty miles to the northward of Sierra Leone, belong to Britain, and are used as a trading station. To the s.e. of Sierra Leone is *Sherboro' Island*, at the mouth of a navigable river called by its name.

2. Some small settlements on the RIVER GAMBIA belong to Britain, and constitute a distinct colony. These consist of *Bathurst* (on St. Mary's Island, lying at the mouth of the river), — *Fort James*, situated on an island thirty miles up the stream, — and *Macarthy's Island*, at a distance of two hundred and fifty miles above its mouth. There are also a few trading establishments belonging to the British at intervals along the river, from the sea to a considerable distance inland. All these places are used as stations by the merchants engaged in the African trade, and supply teak-

wood, ivory, hides, gold dust, palm-oil, and bees' wax,—receiving a few English manufactures in return.

The town of *Bathurst* is the principal place in the Gambia colony: it lies at the east end of St. Mary's island, and contains extensive warehouses, with some good private dwellings. The number of European residents does not exceed fifty, but it is visited by numerous English and American ships during the year. St. Mary's Island is about 16 miles in circumference.

Macarthy's Island has an area of three square miles, with a population of about 1600, very few of whom are whites. The total population of the English settlements on the Gambia does not exceed 4500, all natives, excepting the officers and others attached to the government establishment, with a small garrison of troops maintained for their protection.

3. The British possessions on the coast of Guinea are limited to a few forts,—all of them situated on the part distinguished as the GOLD COAST. These lie between the meridians of $3^{\circ} 17'$ west, and $0^{\circ} 10'$ east, longitude.

The more western portion of the Gold Coast has an undulating surface, with a bold and rocky front to seaward. But the greater part of the territory consists of level fertile and open plains, covered in some places with tall grass, and in others with lofty forest-trees. The shores are here flat and sandy, and the whole range of coast is entirely destitute of harbours.

The principal English settlement is *Cape Coast Castle* (long. $1^{\circ} 13'$ w.), the governor of which exercises authority over all the adjacent forts. Cape Coast Castle is a well-built and strong fortress, standing on a rock close to the sea; outside the walls of the fort is a large native town, with 10,000 inhabitants. To the westward of Cape Coast Castle, Britain possesses the fort of *Dixcove* and *Apollonia*; and to the eastward, that of *Anamaboe*, besides the castles of *James Fort* and *Christianborg*, both situated at Accra, and the last of them formerly a Danish possession. Some trade in gold-dust, ivory, and palm-oil, is carried on at all these places.

The total number of British subjects on the Gold Coast is about 18,000, only a few of whom are whites. But a much larger population is under partial subjection to British authority.

Numerous missionary stations are maintained by the English Church and other denominations of Christians (both in Britain and foreign countries) upon different parts of the west coast of Africa, especially at Sierra Leone, and at various places on the Guinea coast. The English Church in this region is under the superintendence of a bishop, whose diocese derives its name from Sierra Leone.

(657.) The FRENCH settlements are confined to the neighbourhood of the river Senegal, and the tract of country which extends thence to Cape Verde. The two principal stations are *Fort St. Louis*, upon the island of St. Louis, near the mouth of the Senegal, with the island and fortress of *Goree*, situated immediately to the southward of Cape Verde. Be-

sides these, there are a few factories along the banks of the Senegal and upon different parts of the adjacent coast.

The total population of the French possessions in Western Africa is a little short of 20,000, of whom, however, only a small proportion are Europeans. The chief article which the French derive from these regions is gum, the produce of a species of acacia which abounds in the otherwise sterile plains to the northward of the Senegal. *Portendik*, on the coast, is in the neighbourhood of the gum-forests, and is resorted to by the traders for the purpose of obtaining the gum from the tribes of Moors in whose territory it is situated, at the season for collecting which it becomes a busy scene of traffic.

(658.) The DUTCH settlements in this region are confined to the Gold Coast, and consist of the fortress of *El-Mina* (situated immediately to the west of Cape Coast Castle), with *Arim*, at some distance to the westward (near Cape Three Points, between Dixcove and Apollonia), and a small factory at *Accra*, on the coast further to the east. The principal of these is *El-Mina*, which is the residence of the Dutch governor-general. The total population (chiefly native) of these territories is about 100,000.

(659.) The PORTUGUESE possess a few small stations on the coast of Senegambia, the two principal of which are the town of *Cachao*, on the estuary of that name (to the south of the Gambia), and the island of *Bissao*, at the mouth of the Jeba, or Rio Grande, a little further to the eastward: these settlements are dependencies of the Cape Verde Islands.

(660.) The western coasts of Africa to the south of the equator embrace the extensive but little-known territories of Loango, Congo, Angola, and Benguela — all inhabited by various negro races, who appear in most cases to be sunk in a still lower state of degradation and barbarism than those to the north of the line. The slave-trade still flourishes along this part of the coast, and is the chief object for which it is visited by the traders from the opposite side of the Atlantic.

The native inhabitants of these regions are ruled over by a vast number of petty sovereigns or chieftains. The only European nation which possesses any settlements upon this part of the African coast is Portugal.

The settlements of the Portuguese are situated in the territories of Angola and Benguela; in the former of these countries their influence is said to extend to a considerable distance in the interior.

Upon the coast of Loango are the towns of *Loango*, *Malemba*, and *Kabenda*.—*Ambriz*, to the southward, was formerly a great seat of the slave-trade. The towns of *St. Paul de Loando*, upon the coast of Angola, and *St. Philip de Benguela*, on the coast of Benguela, are now the two principal stations on this coast, and the former ranks as the capital of the Portuguese possessions in Western Africa. Both places have been notorious as seats of the slave-trade — still carried on, though upon a greatly diminished scale. Some commercial intercourse is also

maintained with Lisbon, to which are exported the ivory, palm-oil, and other native productions of the African coast.

SECTION VIII. — EASTERN AFRICA.

(661.) *Extent, Natural Features, &c.*—The region comprehended under the general name of East Africa extends from the Gulf of Aden on the north, to the shores of Delagoa Bay (26° s. lat.) on the south—embracing a range of more than three thousand miles of coast. Its general features, climate, and productions have been already described (Arts. 597—610).

(662.) *Inhabitants.*—The Negro nations of Eastern Africa are sunk in a lamentable state of ignorance, superstition, and barbarism. But among the elevated regions towards the interior are found tribes in a higher social and intellectual condition than the people dwelling along the coast. The Galla have overrun many parts of the coast in the neighbourhood of the equator, and completely destroyed some of the principal settlements. The coasts to the north of the equator are occupied by the Somaui tribes.

All the pursuits of industry appear to be at the lowest possible ebb throughout Eastern Africa, and, to the southward of the equator, the trade in slaves is the only branch of commerce pursued with any vigour: various parts of the coast, however, furnish a small quantity of gold-dust, and this, together with ivory, gum, wax, feathers, and skins, forms an additional article of export. The Somaui in general profess the Mohammedan religion; the Negro nations, here as elsewhere, are idolaters.

(663.) *Divisions, Towns.*—The northern part of this region, from the shores of the Gulf of Aden southward nearly as far as the equator, belongs to the *Somaui*, a people divided into numerous tribes,—many of them of pastoral habits, though others are cultivators of the soil. They possess numerous towns—or rather encampments—both on the coast and in the interior, in some of which a very considerable traffic is carried on. One of the principal of these is *Berbera* (on the shore of the Gulf of Aden), the scene of a great fair, held annually during the winter half of the year, between the months of October and April, within which period a vast concourse of people from all the adjacent countries of Africa and Western Asia are assembled. Among these visitors are Egyptians, Nubians, Abyssinians, Arabs, Persians, and Banians, each bringing the produce of their respective countries, and exchanging them for the ghee, hides, deer-horns, ivory, gums, myrrh, ostrich-feathers, coffee, sheep, and horned cattle, of this and the adjacent parts of Africa. During the other half of the year the place is utterly deserted.—*Zeylah* and *Tajurrah* are small seaports to the westward of Berbera, and near the upper extremity of the Gulf of Aden: in the vicinity of the latter is the small group of the *Mushakh* Islands, ceded to the British Government by the Sultan of Tajurrah.—*Hurrur* (or *Harrar*), on the table-land of the interior, is the capital of a state, the ruler of which bears the title of Emir; it enjoys considerable commerce, and is

a depôt for the productions of the neighbouring Galla countries — including coffee, dyes, cotton, gums, tobacco, and grain.

In all this part of Africa a considerable portion of the trade is in the hands of the Arabs dwelling on the opposite side of the gulf, but the Banian merchants (from the coasts of Guzerat, in India) annually visit all the ports of the Somauli country, and carry off nearly the whole of the gums and myrrh.

The coast of Ajan, immediately to the south of Cape Guardafui, contains some rich and fertile valleys, alternating with open, grassy plains. Those of the Somauli tribes who dwell immediately adjacent to the shores are chiefly engaged as fishermen.

(664.) To the south of the equator, the predominating influence in Eastern Africa is exercised by two foreign races — the Arabs and the Portuguese. The former are found at various points from the neighbourhood of the equator southward to Cape Delgado (S. lat. $10^{\circ} 35'$). This portion of the African coast formed part of the dominions of the late Sultan of Muscat, but since his decease, in 1857, it has become a separate sovereignty, of which Zanzibar is the chief seat.

The town of *Zanzibar* (S. lat. $6^{\circ} 10'$) is situated on a fertile island of the same name, divided from the mainland by a channel 25 miles in width. Zanzibar is a great seat of commerce, and has about 30,000 fixed inhabitants — the number being greatly increased at particular seasons, when its harbour is crowded with foreign vessels, amongst which, together with Arab and Indian craft, are many that bear the British and American flags. The ruler of Zanzibar bears the title of Sultan.

To the north of Zanzibar are *Mombas*, *Melinda*, *Patta*, and *Juba* — the last nearly under the line of the equator; to the southward is *Quiloa* (lat $8^{\circ} 57' S.$). All of these places exhibit a decline from the commercial importance which they once possessed. Mombas, Patta, and Quiloa, are situated upon islands which bear the same names.

(665.) The Portuguese territory reaches from Cape Delgado southward to Delagoa Bay. The town of *Mozambique* (on an island which adjoins the coast) is the Portuguese capital. Mozambique still exports ivory, gold-dust, and slaves; but its commercial importance has declined, and it has only 6000 inhabitants. *Quillimane*, at the mouth of the Zambesi, is a great mart for slaves; — *Sofala* (on the bay of that name), and *Inhambane*, further to the southward, both possess some trade; the latter chiefly in ivory and bees'-wax.

In the interior the Portuguese possess the town and fortress of *Senza*, on the south bank of the Zambesi. A hundred and sixty miles higher up the river is the fortress of *Teté*. Forty miles below *Teté* the Zambesi flows through a gorge formed by hills which approach its bank on either side. To the north of the river these hills bear the name of the Lupata range, and reach only the moderate elevation of 800 or 900 feet.

(666.) Further to the northward, the region lying inland from the sea-board of Eastern Africa includes watered and populous tracts, possessed of great natural fertility. Between the parallel of 8° south and the equator is the country visited in 1858 by Captains Burton and Speke, within which the great fresh-water lakes of Tanganyika and Nyanza are situated (Art. 605). This contains a numerous population of Negro race, and is visited by Arab traders from the coast, for the sake of ivory and other articles of produce.

SECTION IX. — SOUTH AFRICA.

(667.) South Africa embraces the colonies of the Cape of Good Hope and Natal, both belonging to Britain, with the large territory of Caffraria, the greater portion of which is in the possession of independent tribes.

1. THE CAPE COLONY.

(668.) *Boundaries and Extent.* — The Cape Colony extends from the south coast of Africa as far northward as the banks of the Gariep or Orange River; on the west its limits are the waters of the Atlantic Ocean, on the east the boundary-line is marked by the course of the Keiskamma river, and an irregular line drawn from the upper part of that stream to one of the two principal branches of the Gariep (that distinguished as the Nu Gariep). From east to west its dimensions measure nearly six hundred miles, and from north to south they exceed four hundred and fifty miles. The length of coast-line which the colony possesses is little short of 1200 miles, and the total area included within its present limits is probably not much less than two hundred thousand English square miles.

(669.) *Natural Features, Climate, &c.* — The chain of the Nieuveltdt Mountains, which traverses great part of the Cape Colony in an east and west direction, naturally divides it into two distinct portions. To the north of this mountain-range are broad, open, and generally arid plains, which slope towards the Orange river, and are included within its basin: upon the south of the mountains are a succession of high terraces divided by chains of hills, and gradually decreasing in elevation as they approach the shores of the Southern Ocean.

The eastern part of the Nieuveltdt chain contains the highest ground in the Cape Colony, and the Great Karroo, immediately to the south of the mountains, has an average elevation of 3000 feet (Art. 597). The Great Karroo is terminated on the south by the chain of the Zwarte Berg (or Black Mountains), which are of inferior elevation to the range above referred to, their highest summits not exceeding 4000 feet. On the south of the Zwarte Berg is the plateau or terrace of the Long Kloof, which again is divided from the level country along the coast by a range of hills of still diminished height. But this last range and that of the Zwarte Berg are divided in several places by the rivers which descend from the southern slopes by the Nieuveltdt, and which force their way to the sea through deep and narrow ravines.

Some other chains of hills occur in the more western part of the colony lying principally in a north and south direction, and divided by high arid plains or karroos, the largest of which are continuous with the extensive tract of the Great Karroo, already mentioned. The Table mountain and adjacent hills, near Cape Town, are a detached group of heights (Art. 597).

The rivers of the Cape Colony, although numerous, are in most cases mere insignificant torrents, excepting when swelled by the rains, and flow generally in deep and precipitous ravines, considerably below the level of the adjoining country, so that it is often difficult to direct their waters to the purposes of irrigation. Even the Gariep does not possess a sufficient depth of water for navigation, and those of the shorter streams which admit the passage of boats for some distance inland are obstructed by bars at their entrances, over which vessels of any considerable burden are unable to pass. Next to the Gariep, the most important streams as to length of course are the Elephants' or Oliphants' River, on the west, with the Breede, Gauritz, Camtoos, Great Fish, and Keiskamma rivers, on the south. But, in general, the colony labours under a deficiency of inland waters.

Of the numerous harbours, the principal are St. Helena, Saldanha, and Table Bays, on the west ; with False Bay (of which Simon's Bay forms a portion), St. Sebastian, Mossel, Plettenberg, Camtoos, and Algoa Bays, on the south. Saldanha Bay is the most commodious of them, and is safe in all weathers. Table Bay, the most frequented, is in general safe excepting during the prevalence of north-westerly winds, which blow within the winter months (between May and September). Simon's Bay, fifteen miles to the south of Cape Town, and situated immediately to the east of the promontory which terminates in the Cape of Good Hope, affords a secure shelter to shipping all through the year, and forms the principal naval station of the colony.

The climate and natural productions of Southern Africa have been already referred to (Arts. 607, 611, and 612). The chief defect in the climate of the Cape Colony is the unsteadiness and irregularity of the rains ; agriculture is sometimes seriously impeded by the absence of moisture, while at other times the rain falls in torrents and swells the streams with extraordinary rapidity, frequently causing them to overflow their banks, to the damage of the surrounding country. In some of the tracts which border on the Great Karroo, there has occasionally been no rain for two or three years together, though this never happens with the districts situated nearer the coast. The alternations of temperature are often great, and of sudden occurrence, and hot easterly winds are sometimes experienced. Notwithstanding these drawbacks, however, the colony is eminently healthy, and its climate admirably suited to the ordinary constitutions of European residents.

(670.) *Inhabitants.* — The population of the Cape Colony exceeds 267,000 — nearly half of them whites. The majority of these are of British origin, though many of the farmers in the older-settled part of the territory (as well as several of those in its more distant tracts) are the de-

scendants of the Dutch settlers (or *boers*, as they are commonly termed), to whom the colony originally belonged.

The larger half of the population consists of coloured races, among whom are both Hottentots and Caffres; but the greater number are of mixed breed, sprung from the union of the aboriginal races with the Dutch, the Negro, or the Malay. The Hottentots are mostly employed as farm-servants and herdsmen, occupations for which they are well suited; some of them have been disciplined and trained to military service, and make good soldiers, when kept out of reach of spirituous liquors, the temptation to excess in the use of which they are unable to withstand. Although commonly spoken of as a degraded and inferior race, the Hottentots are by no means incapable of improvement, and when treated with kindness testify great attachment and fidelity. The Caffres, a people of bold and warlike habits, and superior acquirements, are less trustworthy; they constitute the terror of the peaceful settlers of the Cape Colony, and are the great bane of its prosperity.

(671.) *Industrial Pursuits.*—These are divided between the culture of the soil and the rearing of live-stock. Excellent wheat is grown in particular districts, and also barley, rye, and oats. The culture of the grape has been largely pursued, and wine has long formed a staple produce of the colony, but it is generally of inferior quality, and the demand for it has greatly decreased of late years.* The wine-growing district is confined to the south-western part of the colony, in the neighbourhood of Cape Town.

It is only in the lower grounds, however, that agriculture is successfully carried on, and by far the larger part of the colony is better adapted to pasturage. Sheep-farming occupies the principal attention of the colonists; the native sheep (remarkable chiefly for the large size of its tail) has been improved by crossing with the best European breeds, and wool of excellent quality is now produced. This substance is fast becoming the great staple of the colony. Many of the grazing farms are of immense extent, ranging over vast tracts of country. Large numbers of oxen are reared, and their hides and horns form valuable articles of produce. A considerable whale-fishery is also carried on, but the extent of this has diminished of late years.

The manufactures are inconsiderable, by far the greater quantity of both useful and ornamental articles being supplied from Britain. The necessities of their isolated position, however, compel the settlers in the interior to supply many of their own domestic wants; thus, the farmers generally make their own soap and candles, besides numerous other articles of ordinary use. There are, besides, at Cape Town and elsewhere, manufactures of leather, hats, saddles, tiles, ropes, and a few other articles, with flour-mills, breweries, and distilleries.

The commerce of the colony is large and flourishing; the amount of wool exported is annually increasing, while that of wine (and also the

* The Constantia wine, however, produced in a limited district adjacent to the village of Constantia (9 miles s. of Cape Town), is of superior property, and enjoys a high reputation.

produce of the whale fishery) has decreased. The prime article of export is wool, in addition to which are hides and skins, wine, flour, butter, tallow, whale-oil, and horses, with salt beef and pork. The flour and salt meats are chiefly sent to the Mauritius, and some also to Rio Janeiro, in Brazil. The wool helps to supply the material for one of the staples of our home manufactures*. The imports into the colony are chiefly British cotton and woollen goods, with hardware, earthenware, fire-arms, furniture, books, paper, and numerous other articles, &c.; besides sugar and timber from India, tea from China, and sugar also from the Mauritius. The imports of British and Irish produce exceed 1,200,000*l.* annually.

The colony now contains numerous excellent roads, which have been constructed at vast labour and expense,—in many cases over rugged mountain-passes (or *kloofs*), and across the precipitous sides of deep ravines. But communication in the interior districts still labours under many difficulties. Oxen are universally used for purposes of draught, and long teams of them, yoked to the heavy and cumbrous waggons of the settlers, convey their produce from the distant farms in the interior to Cape Town and other ports for shipment. The herds of cattle which wander during the day over grazing farms of from three to six hundred acres are at night collected into enclosures called *kraals*, as a means of protection against the numerous wild animals,—a precaution more especially requisite in the outer and distant parts of the settlement, where lions, hyenas, and other native denizens of the African wilderness, are sufficiently numerous to require the exercise of vigilance on the part of the colonist, and to afford abundant and exciting employment to the professed sportsman.

(672.) *Local Divisions, Towns, &c.*—The Cape Colony forms two great divisions—a western and an eastern, the former of which contains ten, and the latter nine districts, most of them of very large extent. The western division of the colony is the older portion of the settlement, and is the more strictly agricultural part: the eastern division is more exclusively a grazing district, and has at present fewer inhabitants.

Cape Town (22,000 inhabitants), the capital of the colony, is situated on the south side of Table Bay, and at a distance of thirty-one miles to the northward of the celebrated promontory from which it derives its name. It is well and regularly built, the streets straight, and intersecting one another at right angles. In the immediate vicinity of Cape Town, and surrounding it on the west, south-west, and south, is an amphitheatre of hills, the most conspicuous of which is the well-known Table Mountain, directly south of the town. Table Mountain presents the appearance of a hill of elongated form, with sides for the most part steep and rugged, and a flat plain on the summit. The aspect of the mountain presents a never-failing indication of the approaching condition of the weather, and when, as not unfrequently happens, a white fleecy cloud (known to colonists as the *Devil's table-cloth*) settles on its summit and gradually rolls down the sides, a violent south-east wind is sure to ensue—often productive of serious mischief to the shipping in the bay.

* The quantity of wool imported from the British possessions in South Africa in 1857 exceeded 14,000,000 lbs.

The other towns in the colony are all of small size—most of them merely large villages. *Simon's Town*, on the shores of Simon's Bay, is an important station for shipping, and contains the government arsenal.—*Port Beaufort*, at the mouth of Breede River (145 miles s. e. of Cape Town), has a good harbour for small vessels, and possesses considerable trade. *Graham's Town* (6000 inhabitants), the chief place in the eastern division of the colony, is situated in the district of Albany, at a distance of only thirty-three miles from the nearest point of the Keiskamma river, on the eastern frontier.—*Port Elizabeth*, upon the coast of Algoa Bay, is the principal shipping-port for the eastern half of the settlement.

The northern portion of the territory now embraced within the limits of the colony, with the country lying on the opposite banks of the Orange river, is thinly occupied by various native tribes of the Hottentot race, among whom the Griquas, the Koranas, the Bosjesmans or Bushmen, and the Namaquas, are the principal. All these are people of pastoral and migratory habits. The Namaqua country extends along the Atlantic coast, part of it lying beyond the Orange river: it contains some tracts of good pasture-land, intermixed, however, with dreary and arid plains of yellow sand, some of which are altogether destitute of water.

(673.) BRITISH CAFFRARIA adjoins the eastern limits of the Cape Colony, extending along the coast between the Keiskamma and Great Kei rivers (a distance of 70 miles), and including an area of 3200 square miles. This province, first taken into British possession in 1847, and intended as a kind of border territory between the settlers of the Cape and the independent Caffre tribes, was in 1860 constituted a distinct dependency, and placed under a lieutenant-governor. The chief place within its limits is *King William Town*.

(674.) To the north-eastward of the Cape Colony are two adjacent territories (both inland), which have been formed within a recent period into independent republics, under the respective titles of the Orange-River Free State and the Trans-vaal Republic. These are, in so far as the ruling authority is concerned, Dutch communities, composed of emigrant boers from the Cape, induced by their discontent with the restraints imposed by British colonial rule to penetrate into the interior wilderness of Southern Africa. The more southwardly of these territories corresponds to what was formerly known as the Orange River Sovereignty, an extensive tract of country lying between the two arms of the Gariep. The Trans-vaal Republic is situated, as the name implies, beyond the river Vaal, as the northerly branch of the Gariep is also called. In both communities Dutch is the recognised language of government.

(675.) The Cape Colony is under the administration of a governor, appointed by the British Crown, with a representative legislature, elected by the colonists. The eastern division of the province is under a lieutenant-governor.

The great majority of the inhabitants of the colony are Protestants, belonging either to the English Church or the Dutch Reformed Church; Wesleyan dissenters are numerous. The colony forms two bishoprics of the English Colonial Church, the western half constituting the diocese of Cape Town, the eastern that of Graham's Town. Numerous missionary stations are maintained in the colony and the adjoining

territories, and many of the coloured people have been converted to Christianity.

The Cape Colony was originally established by the Dutch, in 1650, and remained in their possession till the close of the last century. In 1795 it was taken by Britain, but restored to Holland in 1802 : in 1806 it again fell under British power, and was confirmed in the possession of Britain at the general peace in 1814, since which time it has vastly increased in extent and population, and its resources have been largely developed. The chief drawback to its prosperity consists in the unsettled condition of the Caffres upon its eastern frontier, whose hostility to the settlers is frequently manifested in marauding incursions, in the course of which the villages of the colonists are plundered, and their cattle driven off. A prolonged and costly warfare with the Caffre tribes was terminated only in 1847, when the boundaries of the colony were greatly enlarged ; a few years later (in 1852) a second Caffre war ensued, which was happily, however, of shorter duration.

Emigration from Great Britain to the Cape Colony proceeds to only a limited extent, but labour is greatly in demand there,—especially in the eastern half of the settlement, and ample encouragement is afforded to the exercise of industry, accompanied by habits of temperance and sobriety.

2. NATAL.

(676.) The colony of Natal lies between the parallels of $27\frac{1}{2}^{\circ}$ and 31° south latitude, and stretches from the shores of the Indian Ocean to a distance of 100 miles inland,—including altogether an area of about 18,000 square miles. The country rises gradually from the coast towards the interior, and its inland frontier is formed to the westward by a range of mountains called the Draken-berg (or Dragon Mountains). Numerous streams descend from the higher grounds, and the province appears to be, on the whole, better watered than most parts of South Africa.

The climate of Natal is warmer and more tropical in character than that of the Cape Colony. The coast districts are very hot, but further inland, as the ground rises, the air is more temperate. At Maritzberg (fifty miles inland) slight frosts are common in winter, and ice is occasionally seen in the mornings. In the interior of the province, the variations in temperature appear to be considerable. The coasts are subject to the steady and regular influence of the south-east trade wind, which moderates a heat that would otherwise be felt as intense. The rains occur chiefly during the summer, that is, between the months of September and March. The climate of the whole province appears to be perfectly healthy.

The natural productions of Natal are varied, and its capabilities seem to be considerable. Many of the fruits and vegetables of the tropics abound in the warmer districts along the coast. The sugar-cane grows

wild, and both indigo and cotton are found in a native state. Plantains and yams are common, and several of the native fruits possess useful qualities; water-melons attain a large size. The pine-apple thrives, as well as the pomegranate, mulberry, orange, lemon, and many others. Indeed, all the fruits and vegetables of southern Europe appear to flourish; as well as those of more temperate latitudes, in the higher parts of the province. Animal life is equally abundant as in the neighbouring colony of the Cape. Insects are numerous in the coast districts, and constitute a great annoyance, as well as a serious injury, to the settler, whose crops are subject to the occasional depredations of the locust. Both iron and coal occur in various parts of the province.

The native tribes within this province are chiefly *Zoolahs*, a people of Caffre race, but more peaceably disposed than the Caffres in the immediate neighbourhood of the Cape. They are partially employed in the service of the settlers, but are in general averse to any sustained application of labour. There are also some tribes of the Hottentot race, who make better labourers than the Caffres. The *Zoolahs* alone have been estimated to number 200,000.

Natal offers many advantages to the cultivator of the soil, and is likely to become hereafter an important agricultural settlement. The coast districts, to a distance of ten or fifteen miles inland, are well adapted to the growth of cotton. The sugar-cane is profitably cultivated, and some of its produce exported. Arrow-root is also grown with success, and the coffee-shrub thrives. Sugar, arrow-root, and coffee, are, indeed, at present the most promising articles of culture. The more elevated tracts of the interior are better suited to the growth of wheat and other grains. The land seems to be less generally suitable for grazing purposes, but horned cattle and horses appear to thrive in the interior districts.

The two principal stations in the Natal colony are *D'Urban* and *Maritzburg*, the former situated on the coast, and the latter at a distance of fifty miles inland. *D'Urban* is the chief seat of trade: it stands on the north side of Port Natal, which forms the only harbour upon this portion of the African coast; but only vessels of small tonnage can anchor within the harbour. *Maritzburg*, which lies in a more temperate district, and nearly in the centre of the province, is the seat of government.

Natal constitutes a dependency of the Cape Colony, under a lieutenant-governor. The harbour of Port Natal lies at a distance of 300 miles from the eastern frontier of the Cape Colony, and is upwards of 1000 miles (by sea) from Cape Town. The voyage between the Cape and Natal generally occupies about twelve or fourteen days, but is accomplished by the aid of steam in a much shorter interval.

(677.) The general designation of *CAFFRARIA* formerly included all the country extending along the south-east coast of the African continent, from the frontier of the Cape Colony northward to the parallel of Delagoa Bay: but this name is now restricted to the territory lying between the provinces of British Caffraria and Natal, and limited on the north-west by the Orange River Republic. The native district of Caffraria, as comprised within these limits,

contains about 20,000 square miles of hilly and tolerably well-watered country, occupied by the independent tribes of the Caffre race.

(678.) The country to the northward of the Orange River is thinly inhabited by native tribes, many of whom speak a dialect of the Caffre language, and appear to be, in part at least, of Caffre descent. Among these are the Bechuana, who are spread over a large tract of the interior, and the Damaras, who extend along the western coasts, in the neighbourhood of Walvisch Bay. All of them are people of pastoral pursuits, and wandering habits,—possessing numerous herds of cattle, which form, indeed, their only wealth.

At a further distance in the interior, stretching far beyond the limits of the Bechuana territory, is the extensive region of the Kalahari Desert, reaching northward to the parallel of 21° s. latitude. This consists of an immense plain, neither destitute of grass nor trees, but in which water is extremely scarce at the surface, though readily obtainable in small quantities at the depth of a few inches. The inhabitants of this region are principally Bushmen and Kalahari—the latter a people speaking the Bechuana language. Still further northward is a watered and fertile country, in which is situated the extensive lake of Ngami (Art. 605.) Lake Ngami is about 70 miles in circuit: a numerous population dwell round its shores, and the neighbouring country is the abode of countless herds of wild animals. The river Zonga, which flows out of the lake (to the eastward), is afterwards absorbed in the desert. The river Tioghè, a considerable stream, enters the lake on its northern side.

SECTION X.—ISLANDS OF AFRICA.

(679.) MADEIRA, situated off the north-west coast of Africa, is thirty-five miles long by fourteen in its greatest breadth, and contains an area of about 290 square miles. The whole island is a mass of basaltic rock, which rises abruptly from the waters of the Atlantic. Its highest point, called the Peak of Ruivo, reaches more than 6000 feet above the sea. The island is abundantly supplied with rivulets; these form numerous cascades, as they leap from rock to rock, through valleys and ravines covered with the richest vegetation. Groves of chestnut and pine-trees stretch along the higher declivities of the hills, while the large leaves of the banana wave in the lower plains, and the splendid foliage of the palm-tree is seen overtopping the roofs of the houses. The vine has hitherto been the common object of cultivation throughout the island, but has completely failed during several successive years. The culture of the sugar-cane has been recently introduced.

The island of Madeira is much resorted to by invalids (particularly those afflicted with pulmonary complaints), on account of the mildness and uniformity of its climate. At Funchal, the principal town, the mean temperature of the year is 67° , and there is a difference of only 10° between the hottest and coldest months. Occasionally, however, during summer, the hot blast of the sirocco is experienced, and the heat is then, for a time, intense.

The population of Madeira amounts to 116,000, nearly all of them dependent (at least until a recent period) upon the vine crop. A large portion of the wine is exported to London, and most of the principal

wine-merchants are English. The capital, *Funchal* (25,000 inhabitants), is situated on the south side of the island.

About twenty-seven miles to the north-eastward of Madeira is the small island of Porto Santo (seven and a half miles long by three broad), and a short distance to the south-east are some rocky islets called the *Desertas*. The island of Madeira, together with these dependencies, belongs to Portugal.

The CANARY ISLANDS, which belong to Spain, have been described in the account of that country (Art. 438).

(680.) The CAPE VERDE ISLANDS are a group situated 340 miles to the westward of the promontory from which their name is derived. They consist of Santiago, Fogo, Brava, Mayo, Boavista, Sal, St. Nicolas, St. Lucia, St. Vincent, and St. Antonio, with a few of smaller size. The largest of them, Santiago, has an area of about 400 square miles. They are all hilly, and Fogo, the most elevated, is an active volcano.

The surface of the Cape Verde Islands is very generally rocky, arid, and barren; water is scarce, and of indifferent quality. In the more fertile parts, cotton is extensively grown, as well as sugar and indigo, upon a more limited scale. Fruits (including lemons, oranges, pine-apples, bananas, cocoa-nuts, and melons) are generally abundant. There is a fine breed of asses and mules, many of which are exported to the West Indies; goats, poultry, and turtle, are plentiful. Salt is extensively produced in all the islands, and forms a principal article of export.

The Cape Verde Islands belong to Portugal, and form a separate province, in which are included the Portuguese possessions on the coast of Senegambia. The town of *Porto Praya*, on the island of Santiago, was formerly the capital, but the seat of government has been removed to *Mindello*, in the island of St. Vincent. The best harbour in the group is *Porto Grande*, in the last-mentioned island. The population of the entire archipelago is about 40,000.

(681.) The islands of Fernando Po, Prince's, St. Thomas, and Annabon, are situated in the eastern part of the Gulf of Guinea.

FERNANDO PO, the largest (only twenty-three miles distant from the mainland of Africa), is about forty miles long by twenty broad. It is very mountainous, the highest point, Clarence Peak, rising to upwards of 10,000 feet above the sea. The island is covered with large and valuable timber, and contains a native population of several thousands. The chief town, *Clarence*, is chiefly inhabited by negroes, and possesses a few mercantile establishments. Fernando Po belongs to Spain.

PRINCE'S ISLAND and ST. THOMAS both belong to Portugal. The former is nine and a half miles long by six broad,—the latter more than double those dimensions. Both islands are mountainous and fertile. Live stock and vegetables are abundant, and some traffic is carried on by the few Portuguese residents on each; but the population is almost entirely native. The residence of the governor-general for the two islands is on St. Thomas.

The island of ANNABON (or Anno Bom), which is only four miles in length by two in breadth, rises to the height of 3000 feet: both this and Prince's Island are of volcanic formation. Annabon contains numerous sheep, goats, and pigs, besides abundance of fruits, and is visited for the purpose of obtaining a supply of these refreshments. The population is entirely native, under a native chief or king; the island is claimed both

by the Portuguese and Spanish governments, neither of which, however, exercises any real authority.

(682.) The island of ASCENSION lies at a distance of 960 miles to the south-westward of Cape Palmas, the nearest point of the African coast. It is in south latitude $7^{\circ} 56'$, and west longitude $14^{\circ} 24'$.

Ascension is eight miles long by six broad, and has an area of about thirty-four square miles : it is mostly covered with mountains, the highest point of which rises to 2870 feet above the sea. The whole island is of volcanic formation, and has in general a rugged and desolate aspect, consisting of huge masses of rock irregularly piled on one another. The more level tracts round the beach consist of rough lava rock, intersected by deep fissures and ravines. Water is obtained from a spring in the interior.

The climate of Ascension is perfectly healthy. The mean temperature of the coldest month (April) is 72.8 , and the variation in the warmth of the air is confined within a very small annual range. Turtle of large size (many of them weighing from 500 to 800 lbs.) are the most abundant produce of the island. Wild goats are plentiful, and some sheep and cattle are now reared.

Ascension derives its name from the fact of its having been discovered upon Ascension-day, in 1501, by a Spanish navigator. It has no native inhabitants, but became from an early period the occasional resort of homeward-bound Indiamen, and other vessels engaged in the navigation of the neighbouring seas. The British government placed a small settlement upon the island in 1815, since which time it has been maintained in British possession—chiefly for the purpose of a naval station, and as a victualling establishment for the use of the squadron engaged in the suppression of the African slave-trade.

The site of the government settlement is *George Town*, on the north-west coast of the island, where there is a safe anchorage.

(683.) The island of ST. HELENA ($15^{\circ} 55'$ s. lat., $5^{\circ} 43'$ w. long.) is nearly twelve hundred miles distant from the nearest part of the African coast, and lies eight hundred miles to the south-eastward of Ascension. It is an irregular oblong in form (measuring ten miles in an east and west direction, and between five and six miles in average breadth), and includes an area of about forty-seven square miles.

Like Ascension, the island of St. Helena is of volcanic formation : it presents to the sea a perpendicular wall of rock, from 600 to 1200 feet in height, with an undulating plain, interspersed with conical hills and fertile valleys, upon its summit. The highest point of the island, Diana Peak, rises to 2700 feet above the sea.

The climate of St. Helena is healthy and agreeable, though rather humid. The mean annual temperature is 61.4 , the mean of the summer months 63.8 , and of winter 58.3 , showing remarkably little variation between the opposite seasons. Indeed, the mild and equable character of its air causes the island to be occasionally resorted to by residents in India, as a means of recruiting their strength. The summer rains fall in January or February, and the winter rains in July or August, but showers are frequent and refreshing throughout the year.

When first viewed from the sea, St. Helena presents a barren aspect ; but the interior is watered by numerous springs, and is covered with a rich verdure. The soil is generally fertile. Fruits and vegetables are

abundantly grown, and the coffee-plant is cultivated on a limited scale ; cattle and poultry are numerous.

St. Helena has a population of nearly 7000 ; about a third of these are Europeans, but the majority consist of negroes and other coloured races, among whom are natives of many parts both of Asia and Africa, besides numerous half-castes, or people of mixed breed. The people of colour are employed either in the cultivation of the soil, or in various branches of manual labour connected with the trade of the island.

St. Helena belongs to Britain, and is much resorted to by homeward-bound vessels for supplies of fresh provisions and water. The capital, *James Town*, is situated on the north-west side of the island, at one of the four openings by which the interior is alone accessible from the sea. The town and harbour are protected by strong batteries planted on the adjacent heights. The island has been in the possession of Britain since 1668, during the greater portion of which period it was under the administration of the East India Company, to whom it was granted by Charles II. It derives celebrity from having been the residence of the first Napoleon, who died there in 1821, after six years of exile.

(684.) At a distance of 1750 miles to the s. by w. of the Cape of Good Hope, are a group of three small islands, the largest of which is called *Tristan d'Acunha* (from the name of its discoverer, a Portuguese navigator, in the early part of the sixteenth century). The two others are named *Inaccessible Island* and *Nightingale Island*. All three of them rise abruptly from the water, and the highest point of *Tristan d'Acunha* is 6400 feet above the sea,—forming a dome-shaped summit, within which is the crater of an extinct volcano.

These islands belong nominally to Great Britain. At the beginning of the present century a few Scotch and American families established their abode upon them, but their climate and situation—in the midst of an unsheltered and stormy sea—alike unfit them for a permanent place of residence, and they have since been again abandoned to undisturbed solitude.

(685.) **MADAGASCAR** measures about 1000 miles in length, from Cape Amber, its northern extremity, to Cape St. Mary, its most southern point, and has an average breadth of three hundred miles. Its area exceeds 200,000 square miles.

The interior of Madagascar forms a broad and high table-land, crossed by various mountain-chains ; the highest peaks are probably from 8000 to 12,000 feet above the sea. All this part of the island is healthy ; the coasts are low and flat, and liable to pestilential fevers, which are equally dangerous to the natives and to Europeans. In some parts of the island there are frequent and distinct indications of volcanic action. Rivers are numerous, and there are many considerable lakes, both along the coast and in the interior. The whole island abounds in mineral riches of every description, as well as in rice, silk, cotton, spices, and magnificent timber. Cattle are numerous, both in a tame and wild state, and there are immense herds of wild pigs.

The people of Madagascar (called the *Malagasy*) consist of numerous tribes, of various appearance and origin. Two great divisions are conspicuous among them—a black and a brown race, the former apparently of negro extraction, the latter bearing more resemblance to the Malay family of nations. The ruling people in the island are a tribe called the

Hovahs, who occupy the central province of Ankova, and have subdued and rendered tributary to their power the people of all the other provinces. The power of the *Hovahs*, however, is said to have declined greatly of late.

The Malagasy in general have attained a certain degree of civilisation: they understand the smelting of iron, and make numerous warlike implements; many of them are good workmen, as jewellers, silversmiths, and embroiderers, and some excel in the manufacture of cutlasses, gunlocks, silver chains, cotton and silk tissues, and beautiful carpets. But the greater number of the population are ignorant and superstitious, and many barbarous practices prevail. There is no established priesthood in Madagascar, but numberless idols are worshipped. The whole population of the island is supposed to be between four and five millions. The government is a strict despotism, and domestic slavery prevails as an institution throughout the island.

The town of *Tananarivo*, in the centre of the island, is the capital of the *Hovahs*, and has 25,000 inhabitants. Among the numerous ports on the coast, the most frequented is *Tamatave*, on the east side of the island. *Foule Point*, a short distance to the northward, is also a seat of some trade. Further to the north, on the same coast, is the fine inlet of *Antongil Bay*, which during certain seasons of the year is the favourite resort for the whalers of all nations. *St. Augustine's Bay*, in the south-west, is also a place of resort for foreign shipping.

The French are the only Europeans who possess any settlements on the coast of Madagascar. Fort Dauphin, on the south-east coast, the site of a former French settlement, has been abandoned; but the island of *St. Mary* (to the south of Antongil Bay), and *Nos Bek Island*, off the north-west coast, both belong to that nation, and are the seat of some trade, though of inconsiderable amount.

(686.) The island of **BOURBON** (or Réunion, as it is also called), lies 400 miles to the eastward of Madagascar, and has an area of about 900 square miles. It is entirely of volcanic formation, and consists of two high mountains, one of which—the *Piton des Neiges*, is an extinct volcano;—the other, called the *Piton de la Fournaise*, is a volcano in frequent activity. Round the coast there is a narrow belt of land which is of moderate elevation and great fertility. The island is well watered, the climate healthy, and the air remarkably pure.

Bourbon belongs to France; it contains a population of 107,000, a large proportion of whom are natives of Madagascar. Cultivation is restricted to the coasts of the island, the mountain-region in the interior being without inhabitants. The sugar-cane is the chief object of growth; besides this are cloves, coffee, pepper, and tobacco. Some corn is raised, but not enough for the wants of the inhabitants; cattle are imported from Madagascar, and pigs are very numerously reared. The trade of Bourbon is principally with France, and, after that country, with India, Madagascar, and the Mauritius: sugar, cloves, and coffee, are the chief exports—manufactured goods, corn, and cattle, the principal articles of import. The capital of the island is the town of *St. Denis*, on the north coast.

(687.) The island of **MAURITIUS** lies in the Indian Ocean, under the 20th parallel of s. latitude, and 57° 30' E. longitude,—at a distance of 115 miles to the north-eastward of Bourbon, and between five and six

hundred miles east of Madagascar. It is of nearly oval form, measuring forty miles in length from north to south, and twenty-six miles in the direction of east and west, with an area of 676 square miles.* Through nearly its entire circuit the island is surrounded by a bank of coral, the openings in which afford the only safe approach to its shores; the two principal of these openings are Port Louis, on the north-west coast, and Grand Port, on the south-east side of the island.

Mauritius is chiefly of volcanic formation; the interior forms a series of high plains, around which are chains of hills, descending by gradual slopes to the sea-shore. The hills are less elevated and rugged than those in the neighbouring island of Bourbon, but some of them rise into sharp and precipitous peaks; one of the most celebrated of these is the Peter Botte Mountain (situated to the s.e. of Port Louis), which has an elevation of 2874 feet, and is amongst the highest summits of the island. The Mountain of Rivière Noire, in the south-west, is 2902 feet in altitude. Numerous streams descend from the hilly regions to the coast, forming cascades in their course, and running through valleys and ravines which frequently display the most beautiful and diversified scenery. The air is healthy, the soil of the lower grounds exceedingly fertile, and the vegetation rich, varied, and luxuriant. At Port Louis the mean temperature of the year is 78·6, the mean of summer 81·8, and of winter 75·0.

The population of Mauritius amounts to 238,000, the majority of whom are negroes and other people of colour. The white inhabitants are principally of French descent (the island having formerly been a dependency of France); there are also English and other settlers. The principal produce of the island is sugar; besides this are coffee, cotton, indigo, and tortoise-shell, with ebony and other woods. But the sugar-cane is throughout the chief object of cultivation. Mauritius carries on an extensive trade with India, the Cape Colony, Britain, and the Australian Colonies. The sugar of Mauritius is extensively exported to the mother country, and manufactured goods received in return. Rice is largely imported from India, partly for the supply of the Cape.

The capital of the island is the town of *Port Louis*, situated on the harbour of that name (on the n.w. coast), which is the chief seat of trade, and has about 26,000 inhabitants. The only other considerable town is *Grand Port*, or *Mahébourg*, upon the south-east coast.

The island of Mauritius was first discovered by the Dutch, in 1595, and received its name in honour of Prince Maurice of Holland: it was subsequently taken possession of by France, and remained a French colony until the year 1810. During this period it was called the "Isle of France." In 1810 it was captured by Britain, and confirmed to this country at the peace in 1814, since which time it has remained in the possession of the British Crown.

The government of Mauritius includes as dependencies the small island of Roderigue, together with the Seychelle and Amirante Islands, and a few scattered and detached islets. *Roderigue*, situated 300 miles to the east of Mauritius, has an area of about 188 square miles: it is hilly, watered, and fertile, and is inhabited by a few settlers, principally of French descent.

* About the size of the county of Cardigan, in Wales.

The *Seychelle Islands* (700 miles to the north-east of Madagascar, and upwards of 1000 to the northward of Mauritius) are a numerous group, all resting on a coral bank; but the islands themselves are composed principally of granite. The largest, called *Mahé*, is about forty-eight square miles in area. They possess many excellent harbours, and are covered with a luxuriant vegetation, consisting chiefly of palms, among which the cocoa-nut palm is conspicuous. Some cotton is grown on these islands, which have a population of between 7000 and 8000.

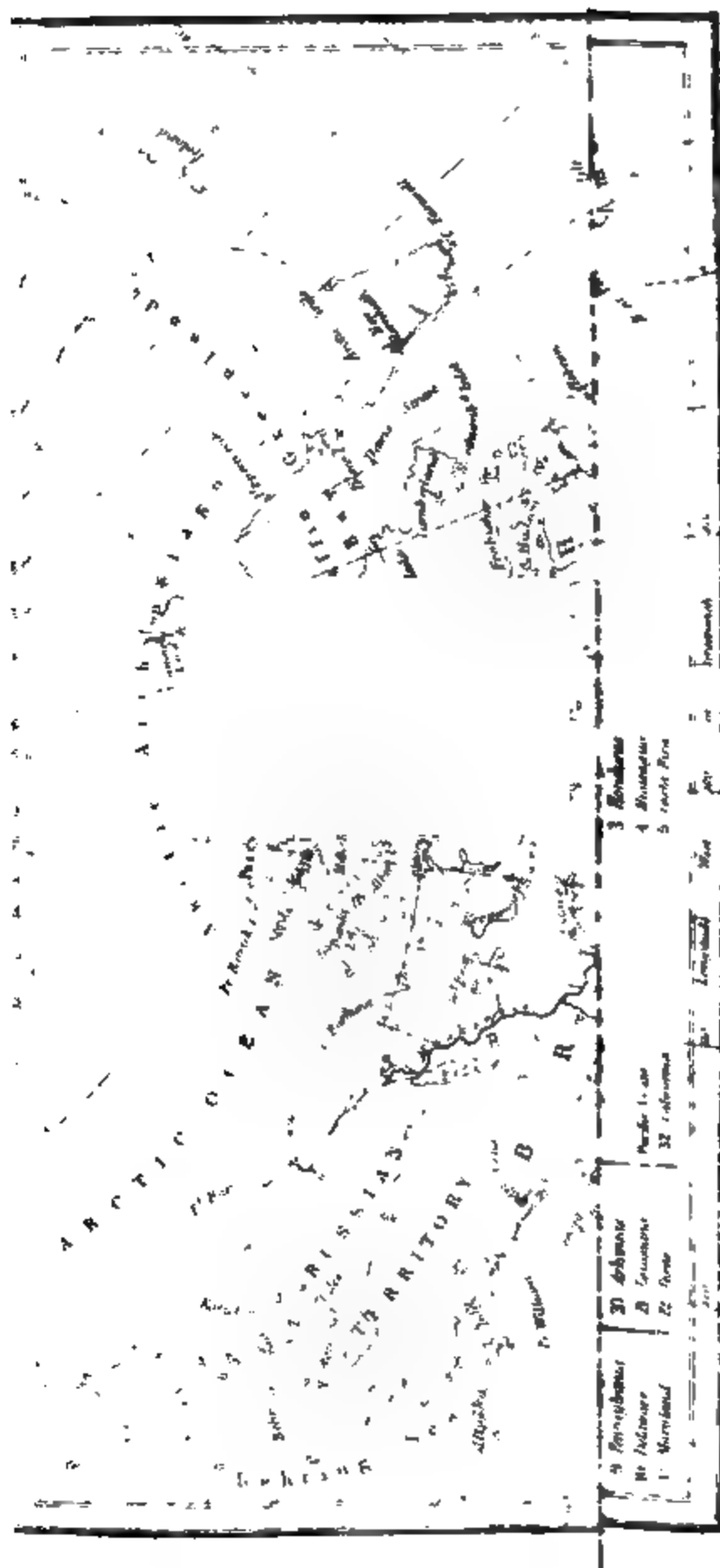
The *Amirante Islands* are a coral group, to the south-westward of the Seychelles, which islands they resemble in the character of their produce; they are all of small size, and only elevated from twenty to twenty-five feet above the sea. The Seychelle and Amirante Islands are under the charge of an agent from the Mauritius. The Chagos Archipelago (Art. 531) is also enumerated among the dependencies of this colony.

The island of Mauritius, with its dependencies, forms one of the dioceses of the English Colonial Church.

(688.) The **COMORO ISLANDS** are situated in the northern part of the Mozambique Channel, midway between Madagascar and the coast of the African mainland. They are high and mountainous in the interior: the lower grounds near the sea abound in sheep, cattle, and all kinds of tropical grains and fruits. The largest of them, called Comoro, is ninety miles in circumference, and contains 30,000 inhabitants, who speak the Arabic language, and profess the Mohammedan religion. The island of Johanna is the most flourishing of the group: the others are named Mohilla and Mayotta.

(689.) **SOCOTRA** is a large island which lies off the eastern extremity of Africa, near the entrance to the Gulf of Aden, at a distance of 130 miles from Cape Guardafui. It is eighty-one miles in length, and has an area of about 1200 square miles. Socotra is mountainous in the interior. The whole island is a mass of primitive rock; the soil is generally hard and arid, and in a great degree unfit for cultivation, but some of the valleys and lower plains are watered and fertile.

The chief produce of Socotra consists of aloes, dates, figs, and a few other fruits; the dragon's blood tree (the trunk of which yields a resinous substance, whence its name is derived) is also found here, and its produce is collected for exportation: camels, sheep, goats, asses, and oxen, are numerous. The inhabitants are principally Arabs, and people of mixed Arabic and foreign extraction. The sovereignty of the island is claimed by the Sultan of Muscat, but there appears to be no regularly constituted authority.



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CHAPTER XIII.

NORTH AMERICA.

PHYSICAL GEOGRAPHY OF NORTH AMERICA.

(690.) THE entire continent of America (or the New World*) stretches in a north and south direction between the Atlantic and Pacific Oceans, the former of which lies upon its eastern, and the latter on its western side. On the north it presents an extensive line of coast to the waters of the Arctic Ocean; towards the south it terminates in a group of rocky islands, at the extremity of which is Cape Horn.

The most northerly point of the American mainland is the extremity of Boothia peninsula, adjoining Bellot Strait, in N. lat. 72° : the most southerly point is *Cape Froward*, in $53^{\circ} 54'$ S. latitude. The entire length of the continent from north to south exceeds nine thousand miles. The most eastern point of the New World is *Cape Branco* ($34^{\circ} 50'$ W. long., and $7^{\circ} 30'$ to the south of the equator); the most western is *Cape Prince of Wales*, in 168° W. longitude, which is divided from the easternmost extremity of Asia by Behring Strait.

The widest part of North America, nearly under the line of the 45th parallel, is three thousand one hundred miles across from sea to sea, and to the northward of this line the continent preserves a considerable extension in the direction of east and west. To the southward of the 45th parallel it diminishes in width, forming below the parallel of 30° a region of greatly contracted dimensions, which gradually tapers into the narrow isthmus of Panama. The southern half of the continent spreads under the line of the 5th pa-

* America is called the New World because its existence was first made known to Europeans so recently as A. D. 1492, when it was discovered by Columbus.

rallel (s. latitude) to a breadth of three thousand two hundred miles, but thence rapidly narrows towards its southward extremity.

On the whole, the breadth of the New World bears but an inconsiderable proportion to its length. In this respect America differs from the Eastern Continent, the greatest dimensions of which are in an east and west direction, while the Western Continent stretches from north to south.

America is divided into two great parts—North and South America—which are connected by the isthmus of Panama. North America is the larger of the two, and has an area of about 8,600,000 English square miles, with a coast-line of 24,500 miles. South America contains about 7,000,000 English square miles, and has a coast of 14,500 miles long (Art. 83). These dimensions are exclusive of the various islands belonging to the New World, the area of which is perhaps equal to a million of square miles.

(691.) *Boundaries and Extent.*—NORTH AMERICA is bounded on the north by the Arctic Ocean: the Pacific Ocean washes its western and south-western shores; the Atlantic Ocean, the Gulf of Mexico, and the Caribbean Sea, are to the eastward. The extremity of Boothia peninsula is its most northern point; *Cape Mariato* (to the s. w. of the Panama Isthmus), the most southern. The most easterly point of North America is *Cape Charles*, upon the coast of Labrador ($55^{\circ} 40'$ w. long.); the most westerly is *Cape Prince of Wales*, beside the channel of Behring Strait.

(692.) *Inland Seas, Gulfs, and Straits.*—The eastern coast of the New World is much more irregular and indented than the western, and North America is more so than the southern half of the continent. Nearly all the principal inlets belong consequently to the basins of the Atlantic and Arctic Oceans, which wash the eastern and northern shores of this continent.

The principal inlets upon the eastern coast of North America are Baffin's Bay, Hudson's Bay, the Gulf of St. Lawrence, the Bay of Fundy, the Gulf of Mexico, and the Caribbean Sea.

Baffin's and Hudson's Bays both belong to the north-eastern region of the New World, but only the latter penetrates the continental coasts of America, the former being wholly surrounded by its extensive insular masses. *Baffin's Bay* stretches northward to the 78th parallel of latitude, and forms a broad and deep sea, upwards of three hundred miles in width,

and bounded on either side by steep and rocky shores. Upon the east side the coasts form numberless cliffs and precipitous islands, which are backed in the interior by lofty and snow-covered mountains. The navigation of Baffin's Bay is open between the months of June and September, but during the remainder of the year it is beset with huge masses of floating ice, which are so numerous as to render it impossible for vessels to direct their course through them, and near the shores it becomes annually fast bound with fixed ice.

The broad channel of *Davis's Strait* connects Baffin's Bay with the Atlantic; a powerful current flows to the northward along the east side of this strait, skirting the western shores of Greenland as far as the parallel of 67° , where it crosses the strait, and thence sets in a southerly direction along the coasts of Labrador and Newfoundland. This current brings into the Atlantic many of the immense icebergs found floating in Baffin's Bay and the adjacent seas. The large black whale abounds in Baffin's Bay and the adjoining channels.

Lancaster Sound is a considerable opening on the west side of Baffin's Bay, and forms the channel of entrance to the sea which washes the northern shores of the American continent. *Smith's Sound*, at the head of the bay, appears to lead into an open polar sea to the northward, and has been explored to as high a latitude as $82^{\circ} 12'$.

Hudson's Bay is properly a great inland sea, and one of the largest on the globe, being only second to the Mediterranean in magnitude. It covers an area of not less than 350,000 square miles—considerably more than twice the size of the Baltic, and nearly as large again as the basin of the Black Sea (Arts. 8. 14). Its greatest extent north and south (along the line of the 80th meridian) exceeds a thousand miles, and its widest part is between five and six hundred miles across. Like Baffin's Bay, it is obstructed by ice during the greater part of the year, and near the shores it contains many shoals, reefs, and islets. The southernmost part of this sea forms *James's Bay*, and on its north-west side are the estuaries of *Chesterfield Inlet* and *Wager River*. Hudson's Bay is entered from the Atlantic by the channel of *Hudson's Strait*, which is from eighty to a hundred miles wide, but is closed by ice during nine months of the year: further to the north are *Frobisher's Strait* and other channels, which are also probably connected with the waters of this great inland sea. The broad arm of Hudson's Bay which stretches furthest in a northward direction is called *Fox Channel*.

The Gulf of St. Lawrence and the Bay of Fundy lie on the eastern coast of North America. The *Gulf of St. Lawrence* is entered from the Atlantic by a broad channel to the southward of Newfoundland, and also by the narrower *Strait of Belle Isle*, which lies between the north-western part of that island and the coast of Labrador. This gulf has everywhere a deep bottom, but its navigation is rendered dangerous by the fogs which almost constantly prevail, and which are most frequent in the early part of summer. During the prevalence of these fogs, which sometimes last for many days in succession, the only safe guidance of a vessel consists in the constant use of the deep-sea lead, with continual reference to a chart showing correct soundings. In the months of October and November the fogs and rain are replaced by thick snow, which causes equal embarrassment to the navigator.

On the approach of winter the gulf becomes much impeded by float-

ing ice, which towards the mouth of the river St. Lawrence forms broken fields, stretching across from shore to shore. In winter and spring the entrance and eastern parts of the gulf are frequently covered with ice, and vessels are sometimes beset for many days. Islands of ice are often met with even during the summer months; these are probably brought into it through the Strait of Belle Isle, towards the entrance of which they have been carried by the southerly current of Davis's Strait, mentioned above.

The *Bay of Fundy* is a long and narrow gulf which runs up in a north-easterly direction between the peninsula of Nova Scotia and the coast of the continent. Its navigation is exposed to great danger, owing chiefly to the extraordinary strength and rapidity of its tides. At the time of the equinoxes the spring-tides rise to a perpendicular height of 70 feet towards the head of the bay, and the ordinary spring-tides to 30 feet perpendicular, forming a head-wave which rolls onward with tremendous velocity and strength.

(693.) The *Gulf of Mexico* and the *Caribbean Sea* form together a vast basin, divided from the open expanse of the Atlantic by chains and groups of islands, like the seas which extend along the eastern shores of the Asiatic continent. The Gulf of Mexico is of oval form, and in its longest diameter measures eleven hundred miles across: its shores are in general low, and lined with flat sandy islands at a short distance from the coast. In the open parts the navigation is safe and easy, but a dangerous group of islets and reefs (called the *Alacranes*) lies to the northward of the peninsula of Yucatan.

The principal entrance of the Gulf of Mexico from the Atlantic is by the *Strait of Florida*, between the peninsula of Florida and the Bahama Islands; to the south-eastward of this channel is the Bahama Sea, which extends between the shores of Cuba and the Bahama Archipelago, and forms a kind of eastern off-set of the Gulf of Mexico. The *Bahama Sea* is thickly beset with banks and reefs of coral, which render its navigation in the highest degree intricate and dangerous.

The Gulf of Mexico is distinguished by the high temperature of its water, which is generally 86° , or from eight to ten degrees higher than that of the open ocean between the same parallels, and even higher than that of the sea in the immediate neighbourhood of the equator. The powerful current known as the *Gulf Stream* (which crosses the North Atlantic from west to east) originates in this gulf—passing with great velocity through the narrow Strait of Florida, and carrying with it the higher relative temperature of the water whence it is derived.* Strong currents are experienced in the Bahama Sea, and add to the perils of navigation among its numerous islands and reefs.

The *Caribbean Sea* extends eighteen hundred miles in an east and west direction, and (in its widest part) nearly a thousand miles from north to south. It is connected with the Gulf of Mexico by a broad passage between Cape Catoche (at the extremity of the peninsula of Yucatan)

* Throughout its course across the Atlantic the water of the gulf stream is several degrees warmer than the ocean in its neighbourhood, and preserves this higher temperature as far from its origin as the neighbourhood of the Azores.

and the westernmost point of the island of Cuba, and is entered from the Atlantic by numerous channels which divide the smaller islands of the West Indian Archipelago. Upon the west and south-west the Caribbean Sea forms the Gulfs of Honduras and Mosquito, and upon the south the Gulf of Darien, the Gulf of Venezuela, and the Gulf of Paria. The three last-mentioned belong to the coasts of South America.

The southern shores of the Caribbean Sea are generally high and rocky: its navigation is for the most part clear and open, but in the recesses of the Gulfs of Darien and Honduras, and also along the southern shores of the island of Cuba, it contains several reefs and rocky banks.*

(694.) The most considerable inlet upon the western side of North America is the *Gulf of California*, which stretches inland for upwards of 700 miles, with an average breadth of less than 80 miles. Upon its western side is the long and narrow peninsula of Lower California. The Gulf of California was formerly noted for an extensive pearl-fishery.

Upon the north-west coast of America are Cook's Inlet, Bristol Bay, Norton Sound, and Kotzebue Sound, the last-mentioned of which lies to the northward of Behring's Strait, and belongs to the Arctic Ocean. Bristol Bay and Norton Sound are inlets of Behring's Sea.

Behring's Strait, which connects the Pacific with the Arctic Ocean, and divides the Old and New Worlds, is 57 miles across in its narrowest part, but rapidly widens both to the northward and southward. Its depth in the middle of the channel is from twenty-nine to thirty fathoms: a strong current sets through it to the northward—or from the Pacific into the Arctic Ocean.

(695.) The principal inlet upon the Arctic coast of America is the *Gulf of Boothia*, which is entered from Barrow's Strait, on the northward, by the channel called Prince Regent's Inlet.

Barrow's Strait lies in an east and west direction, and leads from Baffin's Bay into the Arctic Ocean; the opening of Lancaster Sound, upon the west side of Baffin's Bay, forms the eastern entrance to this strait, from which Prince Regent's Inlet branches off to the southward. Upon the north side of Barrow's Strait is an opening called Wellington Channel, which leads into a wider estuary, to which the name of Queen's Channel is given. All these channels and straits are blocked up by ice during nine or ten months of each year, and in some seasons the ice does not melt for two or more years in succession.

* Both in the Caribbean Sea and Gulf of Mexico, the coral reefs and rocky islets are distinguished by the appellation of *Keys*, or *Cays*: these are especially numerous off the southern coasts of Florida, and among the Bahama archipelago.

(696.) *Capes, Peninsulas, &c.*—The principal headlands upon the northern coasts of the New World are Cape Lisburne, Icy Cape, Cape Barrow, and Cape Bathurst.

Upon the eastern side of North America are Cape Farewell (Greenland), Cape Walsingham, Cape Charles, Cape Race (Newfoundland), Cape Breton, Cape Sable (Nova Scotia), Cape Cod, Cape Hatteras, Cape Sable (Florida), Cape Catoche, and Cape Gracias-à-dios. On the western coasts of the continent are Cape St. Lucas, Cape Mendocino, and Cape Prince of Wales, with others of less importance.

The principal peninsulas on the east side of North America are Labrador, Nova Scotia, Florida, and Yucatan.

The peninsula of Labrador is nearly surrounded by the waters of Hudson Bay, the Atlantic Ocean, and the Gulf of St. Lawrence. The peninsula of Nova Scotia, to the southward of the Gulf of St. Lawrence, is united to the mainland by the isthmus of Chignecto, only eight miles across. The peninsulas of Florida and Yucatan both adjoin the waters of the Mexican Gulf.

The only considerable peninsulas on the west side of the continent are Lower California and Alaska.

On the north are Boothia and Melville peninsulas.

(697.) The whole of that narrow portion of the New World which is situated between the Gulf of Mexico and the Caribbean Sea on the one side, and the Pacific Ocean on the other, is embraced under the general name of the *Mexican Isthmus*: the Isthmus of Panama is the narrowest portion of this region. The narrow tract of the Panama Isthmus stretches for a distance of between four and five hundred miles in an east and west direction, with an average width of from fifty to eighty miles, and in one place it is only twenty-eight miles across from sea to sea.

At two other places within the limits of the Mexican Isthmus the waters of the Atlantic and Pacific approach within a short distance:—these points are respectively distinguished as the isthmuses of Chiquimula and Tehuantepec. The Isthmus of Chiquimula is 170 miles across, between the innermost angle of the Gulf of Honduras and the Pacific. The Isthmus of Tehuantepec, between the gulf of that name on the Pacific coast, and the Gulf of Mexico upon the side of the Atlantic, is 140 miles across.

(698.) *Surface of North America.*—There is considerable analogy between the northern and southern divisions of the New World in regard to their natural features. Both North and South America have vast plains in the interior, with mountain-chains towards the outer borders of the continent, and extending along the coasts. In this respect the western

continent differs strikingly from the Old World, in which the central parts of the continent are in general occupied by high plateaus or mountain-chains, while the lowland regions spread around these, and stretch towards the shores of the surrounding oceans.

(699.) *Mountains and Plateaus.*—The most extensive system of mountains in North America bears the name of the *Rocky Mountains*, which extend from north to south through all the wider part of the continent; or from the shores of the Frozen Ocean on the north to about the parallel of 30° on the south, where they are gradually lost in the table-lands of the Mexican Isthmus. In this long range of nearly three thousand miles they present many differences of aspect.

In their northern portion the Rocky Mountains are not more than from one to two thousand feet in elevation, and consist of numerous parallel ridges, separated by narrow longitudinal valleys: to the northward of the 50th parallel, the mountain-system is crossed in several places by transverse valleys (at right angles to the direction of the chain), through the openings of which the waters upon the opposite sides of the ranges communicate. As they advance to the southward, the height increases, and under the 62nd parallel the loftier summits have an altitude of about 8000 feet; but to the north of the 55th parallel the mountains nowhere exceed 4000 feet. Between the 55th and 38th parallels the elevation becomes much more considerable, and the mountain-system forms in this part a true watershed,—the streams on either side of the ridge flowing on the one hand to join the waters of the Pacific, and on the other towards the basins of Hudson's Bay and the Gulf of Mexico. The average height of the chain within these limits is, perhaps, from 7000 to 8000 feet, and many of the summits greatly exceed this elevation—some even rising to more than double the height. Mount Brown (15,900 feet), Mount Murchison (15,789 feet), and Mount Hooker, all near the line of the 52nd parallel, appear to be the highest summits of the system; further to the southward are Fremont's Peak, Long's Peak, James's Peak, and others of considerable altitude.

The general width of the region embraced within the Rocky Mountains is from forty to a hundred miles. The central peaks are said to consist of granite and other igneous rocks. The eastward slope is formed by a broad belt of sandstone.

The passes over the Rocky Mountains are not narrow defiles, like those which traverse the mountain-systems of the Old World, but consist rather of broad and arid plains. Between the 33rd and 42nd parallels there is no route across the mountains capable of being easily traversed, but to the northward of 42° there are many practicable passes over the higher portions of the chain. The two principal of these, which lie within the territory of the United States, are distinguished as the North and South Passes; both are at an altitude of more than 7000 feet above the sea. Within the limits of the British territory—that is, to the northward

of the 49th parallel,—the Vermilion Pass (recently discovered) crosses the chain in lat. $51^{\circ} 10'$, at an altitude of less than 5000 feet.

(700.) The country between the Rocky Mountains and the Pacific consists of high plateaus and mountain-terraces; together with, in some cases, continuous chains of mountains, divided by intervening plains and valleys. This region includes the Great Basin, or plateau of Utah,—the Highlands of Oregon,—and the Mountains of California (or the West Coast ranges).

A succession of mountain-ranges—in some places continuous, in others divided by wide valleys—extend along the greater portion of the west coast of North America, from the extremity of the Californian peninsula to beyond the 60th parallel. These mountains bear locally various names. One portion of them is distinguished as the *Coast Range* of California, to the north of which (extending across the lower course of the Columbia river) is the *Cascade Range*—so called from the numerous waterfalls formed by the rivers in their descent from the mountain-region to the shores of the Pacific.*

The interior of the Californian peninsula consists of a mass of rock, furrowed by ravines, and the highest parts of which are five thousand feet above the sea. Thence for a considerable distance to the northward, the range which immediately borders on the Pacific coast is of no great elevation; but, a little to the south of the 35th degree of latitude, another and more inland chain is thrown off to the eastward, so that the mountains here form two parallel chains. This more inland chain constitutes the *Sierra Nevada* of California, and the valley which lies between it and the proper coast range is the great gold-region of the Western World. The *Sierra Nevada* extends in a general north and south direction as far as the 42nd parallel, where a kind of mountain-knot occurs, in which the coast-mountains are again united with those of the more inland chain. The crest of the *Sierra Nevada*, as the name implies, rises above the snow-line, and attains a mean elevation of between 7000 and 8000 feet.

The country immediately to the eastward of the *Sierra Nevada* forms the "Great Basin" of Utah, or Deseret,—a region surrounded on every side by mountain-chains, and possessing a strictly inland drainage, resembling (though on a much smaller scale) the plateaus in the interior of the Asiatic continent. The north-eastern part of this tract contains the Great Salt Lake, and also the smaller lake of Utah, in the neighbourhood of both of which there are some fertile tracts. But the larger portion of the Great Basin is a desert plain—elevated between four and five thousand feet above the level of the sea, and crossed by a succession of insulated mountain-ranges. From this plateau the eastern side of the *Sierra Nevada* rises by a gradual ascent; upon their western face,

* The mountains on the west coast of North America are a series of detached ranges, high lands, and mountain-summits,—not (regarded as as a whole) a continuous system. The Rocky Mountains are the great backbone, or principal range, of this part of the western continent.

the mountains sink by a rapid declivity to the deep valley of the Sacramento river, near the lower course of which their base is elevated only a few hundred feet above the sea-level.

Both to the north and south of the Columbia river are many high mountain-masses ; among these are Mount Hood, Mount St. Helen's, Mount Olympus, and others. But the volcanic peaks of St. Elias and Fairweather, which rise in the immediate neighbourhood of the north-west coast (between the 59th and 61st parallels), exceed any others in elevation,—the former being 17,500 feet above the sea. These summits, as well as many parts of the Coast Range further south, are covered with perpetual snow.

The Highlands of Oregon (between two and three thousand feet above the sea) extend to the northward of the Great Basin, and include the country drained by the Columbia river and its tributaries. They consist of a series of high valleys, plains, and mountain-terraces—the greater portion of which are well suited for pasturage, and some tracts of limited extent (towards the banks of the rivers) also for the purpose of agriculture.

The line of the 49th parallel divides the British territory from the United States portion of this region. It is here that the recently established colony of British Columbia has been planted (see page 532).

The peninsula of Alashka, upon the north-west coast, consists of steep and high rocks, which are prolonged to seaward in the chain of the Aleutian Islands.

(701.) The third great mountain-system of North America embraces the Apalachian or Alleghany ranges, upon the eastern side of the continent, and within the older-settled portion of the United States.

The Apalachian Mountains run in the direction of south-west and north-east, and extend from the 34th parallel (about the meridian of 88° w.) to the shores of the Gulf of St. Lawrence, a distance of fifteen hundred miles.* The valley of the River Hudson and Lake Champlain forms a division across the entire mountain-system, from north to south: westward of this line (to which part the name "Alleghany" is alone applied) the mountains consist of numerous narrow ridges, running parallel to each other, with longitudinal valleys between. The number of the ridges varies from six to as many as twelve, and the width of the mountain region is from 100 to 130 miles: the rivers which originate among these chains form numerous waterfalls in their passage from the high intervening valleys into the plains beyond, often forcing their way through ravines of singular and striking beauty. To the eastward of the Hudson, the mountains form generally a more continuous and elevated mass of rock, with detached groups of considerable extent,—as that of the White Mountains, in the State of New Hampshire.

* That is, regarding them in a general sense, as is requisite for the purpose of geographical description: in the States, the local designations of the ranges vary in different localities.

The average height of the mountains belonging to the Apalachian system does not exceed from 2500 to 3000 feet : among the highest summits are the Peaks of Otter (in Virginia), the Unaka Mountains (on the borders of North Carolina and Tennessee, and Mount Washington, in the group of the White Mountains. The last-named exceeds 6000 feet in elevation.

(702.) Besides the three great mountain-systems already described — the Rocky Mountains, the Mountains of the West Coast, and the Apalachian system — the northern half of America includes the elevated regions of the Ozark Mountains, the plateau of Labrador, the Arctic Highlands, and the high plateaus of the Mexican Isthmus.

The *Ozark Mountains* are a detached group to the west of the Mississippi, extending about 300 miles in length by 100 miles in width. They embrace a tract covered with hills of steep ascent but rounded summits, and varying from one to two thousand feet in height.

The *Plateau of Labrador* is a mass of barren rock, interspersed with numerous swamps and lakes, and presenting everywhere a broken and uneven surface. The interior has an average elevation of 2000 feet, and the shores are formed by steep rocks.

The *Arctic Highlands* occupy the north-eastern angle of the continent, from the mouth of the Mackenzie river to the north-western shores of Hudson's Bay. Their surface is broken and rugged, like that of Labrador, but probably of less elevation, and they contain a great number of lakes and streams. The whole of this tract is embraced under the name of the Barren Grounds : its widest extent is upon the east coast, along the shores of Hudson's Bay, where it reaches from the 60th or 61st parallel to the extremity of the continent, but narrows to the westward. The whole region is destitute of wood, and the climate, both of this territory and the plateau of Labrador, is intensely cold.

(703.) The high lands of the Mexican Isthmus extend in a south-eastern direction from the valley of the river Gila (a tributary of the Colorado), in the parallel of 32° , as far as the narrow neck of land lying between the Gulfs of Darien and Panama, — a distance little short of three thousand miles. The western and larger portion of this region includes the plateaus of Chihuahua and Anahuac (both within the territory of Mexico); the eastern part forms the plateau of Guatemala.

The plateau of Chihuahua (to the northward of the 24th parallel) varies from 4000 to 6000 feet in height, the southern portion being the more elevated : the higher parts of the table-land of Anahuac (further to the southward) are from 6000 to 9000 feet in elevation. The plateau of Chihuahua is generally level, and a great part of it desert, — the soil being largely impregnated with nitre, muriate of soda, and other salts,

like the steppes of the Old World : this tract contains many dry salt-lakes, and most of the rivers which cross it terminate on the table-land, without finding any outlet to the coast. The plain of Anahuac is more generally fertile, though arid in many parts.

The summit of the Mexican table-land is traversed by a continuous mountain-chain, which stretches from the upper portion of the valley of the Rio del Norte (of which it forms the western boundary) as far as the 20th parallel, where it is gradually lost in the highest parts of the plateau of Anahuac. This chain is called the Sierra Madre. It is in reality a continuation of one of the southern offshoots of the Rocky Mountains, though partially divided from that mountain-system by a broad plain which connects the valley of the Rio del Norte with that of the river Gila. The mountains of the Sierra Madre rise to between 6000 and 8000 feet above the sea ; their elevation above the table-land is considerably less.

The principal mountains, however, in this part of America are a series of isolated peaks which rise out of the plateau of Anahuac, and many of which are active volcanoes. Several of these peaks lie nearly along the line of the 19th parallel, and occur at intervals across the table-land, from its western to its eastern limits : among them are Colima, Jorullo*, Toluca, Popocatepetl, and Orizaba, the last of which is contiguous to the eastern edge of the table-land. The summit of Popocatepetl is considerably upwards of seventeen thousand feet above the sea, and appears to be the highest point in North America.

Upon the west side of the Mexican table-lands, between the plateau of Chihuahua and the sea, is the *Plain of Cinaloa* — for the most part a fertile tract. Further to the south, the table-land of Anahuac approaches nearly to the waters of the Pacific.

Upon the eastern side, the table-lands are divided from the sea by the *Plain of Tamaulipas*, a low and flat region of considerable breadth. Upon this part of the Mexican coast, and also on the adjoining coast of Texas, a low sandy beach extends along the shore, backed by wet and level prairies, or swampy regions. The low plains are in general exceedingly unhealthy, from the density of the vegetation, and the exhalations to which the heat of the sun gives rise.

The Isthmus of Tehuantepec (between 94° and 95° w. long.) is generally level, but a low chain of hills crosses its southern portion, and connects the plateau of Mexico with that of Guatemala : the elevation of these hills does not exceed 2000 feet.

The plateau of Guatemala, or Central America, extends from the Gulf of Tehuantepec to the Isthmus of Panama, with an elevation which rapidly diminishes, from between five and six thousand feet in its western, to only a few hundred feet towards its south-eastern, limits. The table-land everywhere consists of a succession of plains and hilly ridges, divided by narrow and elevated valleys. The mountains which extend along its south-western border descend abruptly to the Pacific ; they contain numerous high peaks, many of which are active volcanoes. Upon the east the table-land declines by a more gradual slope to the

* The cone of Jorullo was formed by the accumulation of volcanic matter during an eruption which occurred in the year 1759.

waters of the Caribbean Sea, and terminates along the coast in the Plain of Mosquito, which is a perfect level.

The narrower portion of the Isthmus of Panama is crossed by a chain of low hills, which seldom exceed a thousand or eleven hundred feet in height; between the mouth of the small river Chagres, on the coast of the Caribbean Sea, and the town of Panama, upon the shore of the Pacific (a direct distance of forty-two miles), the summit level of the country surveyed for a proposed line of canal to connect the Atlantic and Pacific Oceans is only 473 feet above the sea, and the highest ground on the line of railway between the same points does not exceed 300 feet. The level of the Caribbean Sea at Chagres is $6\frac{1}{2}$ feet higher than the level of the Pacific Ocean at Panama, at the time of low water. But the tides in the Gulf of Panama are very considerable, the difference between the extreme levels of high and low water being upwards of 27 feet; whereas in the Caribbean Sea the tides are scarcely perceptible, and at Chagres the variation between high and low water is not more than 12 or 13 inches.

(704.) *Lowland-plains.*—A great plain extends through the centre of North America, from the mouth of the river Mackenzie to that of the Mississippi, over a length of three thousand miles. The highest part of this plain is a gentle rise of land which divides it into a northern and a southern slope; in the latter, the waters flow towards the Gulf of Mexico,—in the former, towards the Arctic Ocean and the basin of Hudson's Bay. The undulating tract called the Coteau des Prairies, which forms the most elevated part of the watershed, does not exceed 2000 feet above the sea, and in some cases the head-waters of the rivers which belong to the different basins communicate with one another, either by temporary channels formed during the rains, or by permanent water-courses.

The mountains of the Apalachian system on the one side, and the Rocky Mountains on the other, form the eastern and western boundaries of the great plain. Its widest part is under the parallel of 47° , where the distance from the eastern base of the Rocky Mountains to the banks of the St. Lawrence exceeds 1800 miles. The eastern parts of the plain, towards the base of the Apalachian Mountains and the shores of Hudson's Bay, are generally wooded, and diversified by hills of trifling elevation. The middle parts, embracing the valleys of the Mississippi and Missouri, and the intervening tracts as far as the upper portion of the Mackenzie, are level and grassy regions, called *prairies*.* The south-western portion, lying along the foot of the Rocky Mountains, between the parallels of 32° and 43° , is chiefly desert. This latter tract forms an elevated base (of about 2500 feet in height) from which the Rocky Mountains rise, and great part of which is covered with a surface of gravel, strewed with large boulders.

* That is, *meadows*,—from the French, *pré*, a meadow.

The prairies are plains of immense extent, and of almost perfectly level surface, covered with tall grass and wild flowers, but destitute of trees, excepting along the immediate banks of the rivers. Those to the eastward of the Mississippi are in some places swampy, but to the west of that river they have generally a dry and sandy soil.

(705.) The plain which stretches along the *Atlantic Coast*, between the base of the Apalachian Mountains and the sea, is narrow in its northern portion, but increases to a width of about two hundred and fifty miles towards its southern limits, as the mountains recede to a greater distance from the coast. In several places extensive swamps line the coast, and the soil near the sea-shore is frequently sterile; but further inland the country improves, and contains many fertile tracts.

Along the shores of the Gulf of Mexico, the plain of the Atlantic Coast stretches into the southern portion of the Great Central Plain, which there forms a continuous level region from the base of the Rocky Mountains to the shores of the Atlantic. The peninsula of Florida, which belongs to this region, is low and flat, and a large portion of it covered with swamps.

(706.) *Rivers.*—In no other portion of the globe are rivers and lakes found upon so magnificent a scale as in the northern half of the American continent.

The two most considerable rivers of North America are the Mississippi and the St. Lawrence, both of which carry their waters to the Atlantic Ocean. The Mackenzie, which has a northerly course, enters the Arctic Sea. Upon the western or Pacific side of the continent, the Columbia and the Colorado are the principal streams, at least in regard to length of course. But the rivers that belong to the western side of the Rocky Mountains are inferior in length of course to those that descend their eastern declivities. The longer slope of the entire continent is directed towards the waters of the Atlantic: the shorter and more rapid slope towards the Pacific.

The Mississippi waters all the southern half of the great plain, and brings to the sea the drainage of upwards of a million of square miles. The Mississippi rises in the small lake of Itasca or La Biche (lat. $47^{\circ} 40'$, long. $95^{\circ} 30'$), at an elevation of only 1490 feet above the sea, and flows in a southerly direction to its termination in the Gulf of Mexico, after a course of 2400 miles. But the longer branch of the river, which is called the Missouri, has its origin in the Rocky Mountains, and runs for 2500 miles in a general south-easterly direction before it joins the proper stream of the Mississippi: the total length of the river, by this

branch, exceeds 4000 miles. The principal tributaries of the Mississippi, above the junction of the Missouri, are the St. Peter's, Iowa, and Des Moines rivers, on the right bank, and the St. Croix, Wisconsin, and Illinois, on the left. Below the junction of the Missouri the Mississippi receives the waters of the Arkansas and Red rivers on its right, and the Ohio on its left bank, besides a vast number of less important tributaries. The principal streams which join the Missouri are the Yellow-stone, Platte, Kansas, and Osage rivers, all upon its right-hand bank.

The Ohio is, next to the Missouri, the most important among the tributaries of the Mississippi; it is formed by the junction of the two streams of the Monongahela and the Alleghany, both rising on the western side of the Apalachian Mountains, and uniting their waters at Pittsburg, where the river becomes navigable. In its course of 950 miles to the Mississippi, the Ohio receives a great number of tributaries, among which are the Scioto, Miami, and Wabash, upon its right or northern bank, and the Kanawha, Licking, Kentucky, Green River, Cumberland River, and Tennessee, upon the left hand. The Tennessee is nearly equal in length to the main stream of the Ohio. The Ohio varies from four hundred yards to upwards of three-quarters of a mile in breadth, and has generally a deep channel in its lower course: the country through which it flows is one of the finest portions of the great Mississippi valley.

The Mississippi is navigable from the sea to the Falls of St. Anthony, which occur at a distance of about 400 miles below its source, and a little above the junction of the St. Peter's river. The Missouri is navigable from the point where it unites with the Mississippi up to the base of the Rocky Mountains, where the Great Falls occur (in lat. $46^{\circ} 50'$). The navigation of the Mississippi thus exceeds 2000 miles in length, and that of the Missouri (with the lower Mississippi) is more than 3900 miles. The principal tributaries of both rivers are likewise capable of navigation nearly to their sources, so that the basin of the Mississippi presents facilities of inland water-communication such as is possessed by no other region on the face of the globe. These advantages have not been neglected by the people of the United States, to whom the whole of this territory belongs, and many hundreds of steam-boats are constantly passing and repassing upon the streams of the Mississippi and its large tributaries.

Both the Mississippi and the Missouri have annual floods, which begin about the end of February, and are at their height in the middle of June; during this period they resemble great inland seas rather than rivers, extending in some places to from forty to fifty miles across. The vast flood of water which they bring down causes great changes in the course of their channels, the banks being often destroyed, and trees, houses, and even whole villages, being sometimes swept away by the stream. The delta of the Mississippi is annually laid under water to a considerable distance from the banks of the river, along the whole lower course of which there are swampy tracts of immense extent.

(707.) The *St. Lawrence* is the second great river of the North American continent, and carries off the waters of the more eastern portion of the great interior plain.

The most distant source of the *St. Lawrence* is the river *St. Louis*, a

small stream which flows into the upper end of Lake Superior. The waters of this lake are connected with the more eastern and lower lakes of Huron, Erie, and Ontario, from the last of which the river called the St. Lawrence flows by a north-easterly course into the gulf of the same name, forming below the town of Quebec a broad estuary, which increases from 25 to upward of 100 miles across.

The channel of the St. Lawrence, from Lake Ontario to the sea, is about 700 miles long, but (including the great chain of lakes from which it derives its waters) the whole length from the mouth of the St. Lawrence to the western extremity of Lake Superior is 1880 miles; if the course of the river St. Louis, the longest of the streams which falls into that lake, be added, the length of the river exceeds 2000 miles, nearly the whole of which is navigable. Between Lake Ontario and the town of Montreal, however, the bed of the St. Lawrence is much impeded by rocks and ialets, among which numerous rapids are formed. A short distance above Montreal it is joined by its principal tributary, the Ottawa, a deep and rapid stream. Between the beginning of December and the middle of April the navigation of the St. Lawrence above Quebec is completely stopped by the ice. Below Quebec, the great width of the stream, and the force of its current, prevent its being frozen entirely across; but the immense masses of floating ice brought down from its upper course render it impossible for vessels to pass up the river earlier than the second week in May.

(708.) The northern half of the great plain has two slopes,—one easterly or north-easterly, towards the basin of Hudson's Bay,—the other in a northerly direction, towards the shores of the Arctic Ocean.

The easterly slope is drained by the rivers *Nelson* and *Churchill* (or *Mississippi*), both considerable streams, which discharge their waters into the west side of Hudson's Bay. The Nelson flows from Lake Winnipeg, which receives the large river Saskatchewan (formed by two great branches, both of them rising in the Rocky Mountains), besides the Red River and other streams. From the source of the Saskatchewan to the mouth of the Nelson the length of channel is about 1400 miles. The Churchill or Mississippi (or English River, as it is also called), rises in the centre of the great plain, and has a course of about 900 miles.

The northerly slope of the plain is drained by the river *Mackenzie*, which flows into the Arctic Sea, after a course of 2160 miles. The most distant source of the Mackenzie is the river Athabasca, which flows from the foot of Mount Brown (in the Rocky Mountains) and enters Lake Athabasca after a course of nearly 700 miles: from this lake the stream called Slave River flows into the Great Slave Lake, receiving on its way the waters of Peace River, which also comes from the Rocky Mountains (rising on the western side of the chain). The river Mackenzie (properly so called) issues from the western extremity of Great Slave Lake, about 200 miles below which it is joined by the River of the Mountains, or Au Liard's river, the waters of which are likewise derived from the western side of the Rocky Mountains—here of considerable height. During the summer the Mackenzie pours a vast flood of water into the sea, but is obstructed by ice during nine months of the year.

To the east of the Mackenzie are the *Coppermine River*, and the

Thleewecho or *Back's River*, both of which belong to the tract of the Arctic Highlands.

The trifling elevation of the watersheds in the great plain, and the facility offered for communication between its different streams, has been already referred to (Art. 704). The sources of the St. Peter's river (a tributary of the Mississippi) are only separated from Lake Travers, which discharges a stream into the Red River of Lake Winnipeg (and thence, by the Nelson, into Hudson's Bay), by a portage of two miles, which is perfectly level, and is sometimes inundated in the rainy season, so as to enable boats to pass from the one river to the other. A still more striking instance occurs in the case of the rivers Churchill and Mackenzie: from Lake Wollaston (lat. 58° , long. 104°) a stream issues at either extremity, that at one end of the lake flowing to the northward into Lake Athabasca (which is connected with the waters of the Mackenzie), and that which leaves the other side of the lake flowing southward into Deer Lake, and thence by another stream into the Churchill, which belongs to the basin of Hudson's Bay.

(709.) The plain extending along the eastern base of the Appalachian Mountains contains numerous rivers, the principal of which are the Connecticut (400 miles), the Hudson (325 miles), the Delaware (300 miles), the Susquehanna (450 miles), the Potomac (400 miles), the James (450 miles), the Roanoke (350 miles), the Pedee (350 miles), the Santee (350 miles), the Savannah (400 miles), and the Alatamaha (400 miles),—all of which flow into the Atlantic Ocean. The Apalachicola (600 miles), and the Mobile, further to the westward, flow into the Gulf of Mexico.

Most of these rivers are navigable for a considerable distance inland, and the Hudson (at the mouth of which is the city of New York) can be ascended by the largest merchant-ships for 120 miles, and by steamers of light draught much higher up. The Susquehanna, Potomac, and James rivers, with several smaller streams, discharge themselves into a magnificent estuary called Chesapeake Bay,—one of the finest inlets on the coast of the American continent.

(710.) The Gulf of Mexico receives on its western side the Rio del Norte (1400 miles), which rises in the southern portion of the Rocky Mountains. The valley of this river forms part of the line of division between the central plain and the plateaus of the Mexican Isthmus.

The rivers which flow down the eastward slope of this isthmus, either into the Gulf of Mexico or the Caribbean Sea, are all of short courses; but one of them—the San Juan—possesses considerable importance, from its affording the most ready means of communication hitherto effected between the opposite shores of the Atlantic and Pacific Oceans. The river San Juan has its origin in the lake of Nicaragua, on the southern portion of the plateau of Guatemala, and, after a course of about 120 miles, empties itself into the Caribbean Sea. Though shallow, and in some places interrupted by rapids, it is navigated by small steamers through its entire length. Lake Nicaragua lies at an elevation of 128 feet above the sea, and between its western shore and the coast of the Pacific is a neck of land which at its narrowest part is only eleven miles across in a direct line,—so that the navigable waters of the two oceans here make their nearest approach to one another. A road of 16 miles in length, and practicable for mules, connects these points, and no natural difficulty of

an insurmountable character opposes the construction of a canal which would effect a navigable communication between them.

(711.) The principal rivers flowing into the Pacific, upon the western coast of North America, are the Fraser (600 miles), Oregon or Columbia (750 miles), Sacramento (420 miles), and the Colorado (840 miles). The most considerable of these is the Columbia, which drains the greater portion of the territory embraced within the Highlands of Oregon, and is joined by several important tributaries; the largest of them is the Lewis or Saptin river. The Columbia is navigable, for vessels drawing not more than twelve feet water, as far up as where it passes through the mountains of the Cascade range, at which considerable falls occur.

The river Sacramento waters the northern half of the valley lying between the Sierra Nevada and the coast range of California, and forms at its mouth the harbour of San Francisco: immediately above this outlet it is joined by the San Joaquin river, which drains the southern half of the valley.

The Colorado waters the sterile plains which lie to the southward of the Great Basin, and discharges into the head of the Gulf of California, being joined a short distance above its mouth by the stream of the Rio Gila, which flows from the eastward.

(712.) *Lakes.*—The central plain of North America abounds in lakes, especially in its northern half, where they form—with the numberless channels by which they are connected—a perfect labyrinth of inland water-communication.

The largest lakes in North America (and the largest fresh-water lakes in the world) are Superior, Huron, Michigan, Erie, and Ontario, which have together an area of more than 90,000 square miles, and all of which are connected with the sea by the channel of the river St. Lawrence.

The following Table gives the extent, elevation, and depth, of these vast inland seas:—

	Mean length.	Mean breadth.	Area.	Elevation above sea.	Mean depth.
Lake Superior -	400 miles.	80 miles.	32,000 sq. m.	596 feet.	900 feet.
— Michigan -	220 —	70 —	24,000 —	578 —	1000 —
— Huron -	240 —	80 —	20,000 —	578 —	1000 —
— Erie -	240 —	40 —	9,600 —	565 —	84 —
— Ontario -	180 —	35 —	6,300 —	232 —	500 —

The lakes are thus found to lie upon four successive platforms, or terraces, between the two last of which the difference of level is very considerable, amounting to more than 300 feet. The waters of Lake Erie are discharged into Lake Ontario by the river Niagara, in the course of which, midway between the two lakes, are the stupendous *Falls of*

Niagara, in which the river suddenly precipitates its waters to a depth of 162 feet. Lake Superior is connected with Lake Huron by the river St. Mary, in which falls and rapids occur. The channel which unites Lakes Huron and Erie forms the small Lake of St. Clair in the middle of its course: above this lake it is called the River St. Clair, while its lower portion bears the name of Detroit River.

The depth of four out of the above five lakes is considerable; but Lake Erie is comparatively shallow, and is gradually—though slowly—in process of filling up. The immense extent of these great bodies of inland water gives them the character of fresh-water seas rather than lakes, and, as the country around is growing more fully occupied, they are gradually becoming the scenes of an active commerce. Owing to their great size, these lakes are never entirely covered with ice, but all the bays and inlets are annually frozen up, and in Lake Superior the ice extends to a distance of seventy miles from the shore. *Lake Champlain* (about 500 square miles) belongs to the same basin as the great lakes above described, and is connected with the St. Lawrence by the river Richelieu.

The other principal lakes of North America are enumerated below:—

Name of Lake.	Area in square miles.	Country in which situated.
Winnipeg - - - - -	9,000	British North America.
Winipigoos - - - - -	3,000	—
Manitoba - - - - -	2,100	—
Lake of the Woods - - - - -	1,500	—
Athabasca - - - - -	3,000	—
Great Slave Lake - - - - -	12,000	—
Great Bear Lake - - - - -	10,000	—
Deer Lake - - - - -	2,400	—
Wollaston Lake - - - - -	1,900	—
Great Salt Lake - - - - -	1,800	United States.
Utah - - - - -	160	—
Chapala - - - - -	1,000	Mexico.
Nicaragua - - - - -	3,500	Central America.
Managua - - - - -	430	—

The first four lakes named in the above Table belong to the basin of the river Nelson, which enters Hudson's Bay. The three next in order (Athabasca, Great Slave, and Great Bear lakes) are within the basin of Mackenzie river. Deer Lake belongs to the basin of the Churchill or Missinippi river. The waters of Lake Wollaston are connected both with the Churchill and the Mackenzie, a stream issuing from either extremity of the lake, and flowing in opposite directions (Art. 708). All of these lakes, together with a vast number of less size, are situated in the northern half of the great plain, and lie within the limits of a broad belt of primitive and metamorphic rocks which extends from Lake Superior northward to the shores of the Arctic Sea.

The Great Salt Lake, and Lake Utah, are to the west of the Rocky Mountains, within the tract known as the Great Basin (Art. 700). The former has no outlet, but receives a stream from Lake Utah, the water of which is fresh.

The lake of Chapala, situated on the Mexican plateau, discharges its water into the Pacific by the river Santiago. Several lakes of smaller

size lie in the immediate neighbourhood of the city of Mexico, on the higher portion of the table-land. Lake Nicaragua receives a stream from the smaller Lake of Managua, which lies upon a terrace elevated 28 feet above that body of water, or 156 feet above the sea (Art. 710).

(713.) *Islands.*—A vast number of islands lie adjacent to the northern and north-eastern shores of the New World. Many of them have only been discovered within a recent period, in the course of the repeated endeavours made to pass round the northern side of the continent, from the Atlantic to the Pacific Ocean.*

Greenland, Grinnell and Ellesmere Lands, North Devon, the Parry Islands, Banks Land, Prince Albert Land, Victoria Land, King William Land, Prince of Wales Land, North Somerset, with Cockburn, Southampton, and Cumberland Islands, are among the most considerable of these islands, and are comprehended under the general name of the Arctic Archipelago.

Greenland is a region of immense extent, reaching from the 60th to the 80th parallel, or more than 1200 miles from north to south, with a breadth of between six and seven hundred miles. The largest of the Parry Islands is called Melville Island; this is divided by the channel of Melville Sound from Banks Land, which is of still larger size. Melville Sound is continuous, to the eastward, with Barrow Strait and Lancaster Sound, and forms a channel of connection between the waters of Baffin Bay and the Arctic Sea — and thence (through Behring Strait) with the Pacific Ocean. A communication is thus proved to exist — by way of Baffin Bay, Lancaster Sound, Barrow Strait, Melville Sound, and Behring Strait — between the Atlantic and Pacific Oceans, upon either side of the New World; though too much blocked up by ice to be of any use for the purposes of navigation.

All the islands of the Arctic Archipelago exhibit a naked and dreary surface. Steep rocks rise from the coasts, and the surface of the interior is buried under ice and snow for ten months of the year. Upon the coasts of Greenland, vast glaciers descend to the shore, and becoming detached by the joint influence of the waves and atmospheric changes, float as enormous icebergs in the adjacent seas, whence they are carried by the force of the current along the coasts of Labrador and into the more open ocean (Art. 692).

(714.) The islands on the eastern side of North America embrace Newfoundland Cape Breton Island, Prince Edward Island, and Anticosti, all in the neighbourhood of the Gulf of St. Lawrence; the Bermuda Islands; and the numerous islands of the West Indian Archipelago.

* That is, to make the "North-west passage," as it is termed — an object which has engaged the attention of English mariners for a term of three centuries.

The archipelago of the West Indies embraces three principal divisions—the Greater Antilles, the Lesser Antilles, and the Bahama Islands. The greater Antilles consist of the large islands of Cuba, Jamaica, Hayti, and Porto Rico, all of which are mountainous.

The Lesser Antilles include the Virgin Islands, St. Christopher, Barbuda, Antigua, Guadeloupe, Dominica, Martinique, St. Lucia, St. Vincent, Grenada, Tobago, Trinidad, and Barbadoes—together with Margarita, Curaçao, and others, along the southern shore of the Caribbean Sea, and near the South American mainland. Most of them are high and rocky, and six among them contain active volcanoes. The Bahama Islands are low.

(715.) *Climate.*—Most parts of America have a lower average temperature than portions of the Old World in corresponding latitudes. This is in part owing to its comparative narrowness within the tropics, while its northern half spreads out to a considerable breadth towards the neighbourhood of the Arctic Circle;—hence South America is generally warmer than the northern division of the continent. The western side of North America is much warmer than the eastern, and experiences in a less degree the extremes of summer and winter temperature. In this respect the western coasts of the northern half of the New World resemble those of the eastern continent (Art. 49).

The differences in temperature between the eastern and western sides of North America are most perceptible during the winter months. In July, the temperatures on either side of the continent nearly coincide, and the isothermals of that month are comparatively flattened, excepting to the northward of the 50th parallel; but in January these lines present extremely convex summits along the western coasts, and sink with a deep concavity towards the central plain and the neighbourhood of the eastern coasts. The country to the west of the Rocky Mountains has, in fact, a temperature subject to comparatively little annual variation, while the central and eastern parts of the great North American Plain experience intensely hot summers and correspondingly severe winters. At Sitka Island, on the north-west coast (lat. $57^{\circ} 3'$ long. $135^{\circ} 18' \text{ w.}$) the mean annual temperature is 45.4 , and the difference between summer and winter 21.5 ; while at Portland, on the east coast of the United States, which is more than thirteen degrees nearer the equator, the mean temperature of the year is only one degree higher, 46.4 , and the difference between summer and winter is 45° .

The highest summer temperatures in the New World are found within a line which encircles the shores of the Gulf of Mexico and the Caribbean Sea, embracing the southern portion of the United States, the eastern coasts of Mexico and Central America, the northern shores of South America from the Isthmus of Panama to the mouth of the Orinoco, and the islands of the West Indies. Within these limits the mean temperature of the summer is nowhere less than 88° , and the mean of the year rarely lower than 70° .

The coldest portion of the New World includes the coasts of North America between the mouth of the river Mackenzie and the Gulf of Boothia, together with the adjacent islands to the northward ; and extends inland as far as Chesterfield Inlet (on the western side of Hudson's Bay). This embraces a large portion of the tract described under the name of the Arctic Highlands. The mean temperature of winter is here from -21° to -28° (or from 53° to 60° below the freezing point), and the mean temperature of the year not higher than between 3° and 4° . In latitude 66° the snow remains continually on the ground from the middle of October till the beginning of May, at which time the soil begins to appear, after it has been covered up for two hundred days. But even in the highest latitudes of the New World the severest winter cold is not equal to that experienced at Yakoutsk, on the banks of the Lena, in the Asiatic continent.

The climate of America is also moister than that of the eastern continent ; hence its dense forests and luxuriant vegetation. It has been calculated that the average quantity of rain which falls annually within the tropical regions is equal, in the Old World, to 77 inches of water, and in the New World to 115 inches. Similarly, in the temperate regions, the mean is 34 inches in the Eastern continent, and 39 inches in the Western.

In all the parts of tropical America that border upon the Atlantic coast the quantity of rain is very great ; at Vera Cruz about 68 inches fall annually, and in most of the West India Islands between 60 and 70 inches. In the higher latitudes of North America, beyond the 35th parallel, more rain falls in general on the western than on the eastern coast, but within tropical America (north and south alike), the rains are most abundant upon the east side of the continent. In the northern half of the Californian peninsula, and on the plateau of Chihuahua (within the Mexican isthmus), very little rain occurs.

(716.) *Natural Productions : Minerals.*—The mineralogy of the New World is particularly rich and splendid. Gold and silver have been its characteristic productions ever since the period when it first became known to Europeans. Mexico and the adjacent highland regions to the southward were long the chief source whence the most abundant supply of the precious metals was derived. Within recent years, California (in which gold was first discovered in 1848) has furnished a greater quantity of *gold* than any other country in the world, with the sole exception of Australia. Gold is also found in many parts of the older-settled Atlantic states, amidst the ranges of the Alleghany Mountains. *Silver* occurs, in a vast number of localities, upon the table-lands of Mexico.

The more useful—though less attractive—productions of the mineral world are also abundantly distributed throughout the North American continent. *Iron*, *copper*, and *lead* abound in most parts of the United States, as well as in the neighbouring British provinces. Both *tin* and *quicksilver* occur in Mexico, and the latter metal is found in California. The most valuable of minerals—*coal*—is extensively distributed within the temperate latitudes of this continent.

Both iron and coal abound in the eastern division of the United States; iron also occurs in Canada, New Brunswick, Nova Scotia, Cape Breton

Island, Mexico, and the states of Central America. Coal is likewise found in New Brunswick, Nova Scotia, and Cape Breton Island. The coal-fields of the United States are of immense extent, covering an area which is more than sixteen times greater than those of Britain.

Salt abounds in many of the interior plains of North America, especially on the plateau-region of Utah, as well as in many other parts of the United States, and in several of the islands of the West Indies.

(717.) *Vegetation*.—Alternate forests and prairies form the great features of natural scenery in the northern half of the New World. The forest-trees valued for their timber embrace numerous species of the oak and pine tribes, with the ash, beech, birch, black and white cedar, chesnut, cypress, juniper, hickory, locust, maple, mulberry, poplar, and walnut. In advancing to higher latitudes, beyond the parallel of 50° , the pines gradually become more numerous, and the larch, aspen, poplar, alder, hazel, and willow, are among the more characteristic forms of arborescent life. The sugar-maple, elm, ash, and Canadian cedar-tree, are not met with further north than the Saskatchewan (lat. 54°). Towards the shores of the Arctic Ocean and the north-western coasts of Hudson's Bay, the trees gradually become more stunted, and one by one disappear. Beyond the Polar circle not a tree is to be seen, and mosses, lichens, and a few dwarf shrubs, constitute there the sole vegetable covering of the barren and dreary plains.

Few of the more useful plants of the eastern hemisphere are indigenous to the soil of the New World, and none of the *cerealia* of Europe and Asia were known to the people of this continent prior to its discovery at the close of the fifteenth century. But a mutual interchange between the productions (both vegetable and animal) of the two continents has gradually been effected, to the advantage of both, and probably in a superior degree to the profit of the western world.

Maize, cocoa, pimento, mandioc (or cassava), the potato, and the tobacco plant, are among the native productions of America, and have thence been diffused over other parts of the globe. The banana, cotton plant, sugar-cane, and the various grains and fruits of the eastern hemisphere, all flourish in those parts of the New World which possess a climate suitable to their growth. Wheat and other European grains and fruits grow on the summit of the Mexican and South American tablelands, the sugar-cane on their declivities (to a height of from five to seven thousand feet above the sea), and the banana, mandioc, caoutchouc-tree, mahogany-tree, and numberless fruits and flowers of the richest kind, on the low plains of the coast.

The various plants of the *cactus* tribe are peculiar to tropical America, and one species (the *Cactus coccinifer*) is the abode of the cochineal insect of Mexico, so valued for its red dye. The azaleas, magnolias, and rhododendrons, are among the characteristic plants of North America.

(718.) *Zoology*.—The native zoology of America differs from that of the Old World still more strikingly than its forms of vegetable life. The animals common to both continents are almost entirely limited to the northern parts of America; they consist principally of the fur-bearing animals, with some aquatic birds, and a few fishes. On the whole, the types of animal life indigenous to America are inferior in size to those of the eastern hemisphere; they are also less generally useful to man, and perhaps less calculated to arouse his intelligence and subserve the pur-

poses of his advancement towards civilisation. America has neither the elephant nor the camel ; nor were either the horse, the ox, the sheep, or the hog, known in this portion of the globe until after the discoveries of Columbus, though they now exist abundantly in a domesticated state, and immense herds of wild horses and oxen roam over the boundless plains of South America.

The carnivorous quadrupeds are inferior in size, strength, and ferocity, to those of Asia and Africa. In place of the lion, America has only the puma—a smaller and less powerful creature. The tiger of Southern Asia is represented by the jaguar, a somewhat smaller animal, but the most powerful of the American carnivora. In North America the numerous bears form, indeed, an exception to these general characteristics, and are distinguished by their size and power, particularly the grizzly bear of the countries which border upon the Rocky Mountains. The great white bear of the polar regions is common to the high latitudes of either hemisphere.

North America, which is more strictly continental in extent than the southern half of the New World, possesses, however, some types of animal life which rival those of the eastern hemisphere. Among these are the majestic bison, or American buffalo (vast herds of which inhabit the immense prairies to the eastward of the Rocky Mountains),—together with the elk or moose-deer, occupying a place similar to the rein-deer of Northern Europe and Asia,—and the various bears. Several varieties of the deer-kind occur in the northern half of the continent, together with the musk-ox, the big-horned sheep, and the Rocky Mountain goat, which are peculiar to this region.

The tapir and the peccary (an animal of the hog kind) range all over the plains of South America, and the former is also found on the coast of Central America. The puma (or-cougar) occurs on the Mexican Isthmus, and even as far northward as the 45th parallel, though found most numerous in the southern half of the continent, where its range extends to within a few degrees of the Strait of Magellan. The jaguar is found in the coast regions of the Mexican Isthmus, as well as the forests of Brazil and the adjoining regions of South America. The lynx and the wolf belong to the colder tracts of North America.

The opossums are numerous in South America, and one species is met with in the United States (Virginia); this family (*marsupialia*) is altogether absent from the eastern continent, but is fully developed in the Australian division of the globe. The beaver abounds in the colder latitudes of North America, together with a vast number of other furbearing animals:—as racoons, martens, squirrels, sea-otters, minks, musk-rats, ermines, foxes, wolverines, and hares.

Birds constitute a department of the natural kingdom which is very numerous and variously developed in the New World, and the ornithology of tropical America exceeds in splendour that of any other region of the globe. Among the principal birds of prey are several species of eagle—including the large white-headed eagle of the United States; with vultures, hawks, kites, and owls. South America, however, possesses the largest of the vulture-tribe—the gigantic condor of the Andes, which is confined to the higher peaks of those mountains, bordering on the limits of the snowy region. This is one of the most powerful and rapacious of birds, and commits numerous ravages amongst the cattle,

deer, and other animals. The American ostrich, or emu, which dwells in the plains of the pampas, is also distinguished by its size.

The humming-birds are peculiar to the western continent, and in the tropical regions of America various birds of the most glittering plumage, together with numberless fire-flies, lend an almost magical charm to the aspect of nature. The range of the humming-birds extends over the whole continent to the southward of the 42nd parallel (north lat.), and stretches upon the western side of North America as high as the parallel of 60°—an evidence of the superior warmth which distinguishes that side of the American continent.

Both reptiles and insects are abundant in the New World, which, owing to its excessive moisture and dense vegetation, is peculiarly suited to the development of these departments of the natural kingdom. Venomous serpents are more numerous in tropical America than in any other part of the globe. The rattle-snake occurs in both divisions of the continent, within the parallels of 44° to the northward, and of 30° to the south, of the equator; the huge boa-constrictor, the largest of the serpent-tribe, and the terror even of the natives, dwells in the marshes and swamps of South America. Huge caymans, iguanas, and other lizards, with numberless alligators and water-snakes, abound in the rivers and temporary lagoons of the same region.

(719.) The *population* of the New World amounts to about 60,000,000. These form three great divisions: the Indians, who are a native American race, and have in general a reddish, copper-coloured, complexion; the Negroes, who have been originally brought from Africa, and have multiplied in the New World to a vast extent; and the Europeans and their descendants, who are the ruling people throughout the continent. Besides these are the mixed races, as the Mulatto, sprung from the union of the white man with the Negro; the Mestizo, from the European and the native Indian; and the Zambo, from the Indian and the Negro.

The Indians are distinguished from the two other races by the colour of their complexion, and by their long, coarse, coal-black hair (which is never crisped, like that of the African, or curled, as that of the white sometimes is), as well as by a scantiness of beard. Their senses of sight, hearing, and smell, are remarkably acute. In war and the chase they are indefatigable, but they are averse to regular and mechanical labour. They are cold and phlegmatic in temperament, and manifest an extraordinary insensibility to bodily pain. They have good natural intellects, and exhibit both grace of delivery, and force of language, in public speaking.

The most northern parts of the continent, along the shores of the Arctic Ocean and Baffin's Bay, are scantily

inhabited by a race of people called the *Esquimaux*, who, however, are very few in number. They differ in many respects from the Indians, and are probably of Asiatic origin: the *Esquimaux* are of short stature, lead a wandering life, and subsist chiefly upon fish.

More than half the total population of the continent now consist of descendants of Europeans, among whom people of the Anglo-Saxon race are most numerous, and are increasing with extraordinary rapidity. These embrace the majority of the inhabitants of the United States. Among the native Indian race are a vast number of tribes and nations, whose languages are different from one another; but they are everywhere declining in numerical strength, and the Indian is fast disappearing before the advance of the white man.

Of the native languages of America, two of the most widely-diffused are the Quichua and Aztec tongues, the former of which prevails over the table-lands of Peru and Bolivia, and the latter on the plateaus of the Mexican Isthmus. The people of these elevated regions are the only native tribes who appear to have attained any considerable degree of civilisation, or even to have adopted settled habits of life.

At the time of the first discoveries of the Spaniards, both Mexico and Peru were extensive and well-regulated kingdoms, with regular laws and other institutions, by means of which property was secured, the different orders of society defined and protected from encroachment, and various usages of society practised in peace and contentment. The people of these kingdoms inhabited large towns ; and the remains of their temples, pyramids, roads, and other public works, with hieroglyphic writings, paintings, and similar objects, still attest the degree of refinement which they had attained, and the industry which they manifested. But these nations, though relatively high in the scale of civilisation as compared with their native brethren of the New World, were wholly unable to withstand the disciplined vigour and fierce ardour of their European opponents, and they quickly fell beneath the yoke of Spanish conquest. Nor has the native civilisation of America ever made the slightest attempt at revival : on the contrary, the Indians have everywhere retrograded. Indeed, with the exception of the two nations above referred to, the Indian has nowhere advanced beyond the condition of the hunter's life, and he remains to this day the man of the forest, the untutored denizen of the woods and prairies, where he wanders (in thin and scattered tribes) by the shores of the vast lakes and mighty rivers which were formerly the undisturbed possession of his race.

The total population of the New World is supposed to be made up in the following proportions:—

Indians	-	-	-	-	-	9,000,000
Negroes	-	-	-	-	-	8,000,000
Europeans and their descendants	-	-	-	-	-	35,000,000
Mixed races	-	-	-	-	-	8,000,000
Total	-	-	-	-	-	60,000,000

North America contains a larger number of the human family than the southern half of the American continent. Of the total number, about two-thirds, and of the European race, at least four-fifths, inhabit the vast plains and fertile river-valleys of the North American continent. The valleys of the Mississippi and the St. Lawrence have constituted the fields in which the energies of the white man have been most advantageously developed, and in which his race exhibits the greatest numerical increase. The Indian race has here faded when brought into contact with the advances of white civilisation, and is rapidly passing away before it. In the tropical regions of the continent, the Indian better maintains his ground, and a vigorous race of half-castes has resulted from his union with the white stranger. In Mexico and Central America, the vastly greater proportion of the population consist either of native Indians or half-castes.

In North America alone (not including the West Indian Islands), the races exhibit about the following proportions:—

Indians -	-	-	-	-	-	4,000,000
Negroes -	-	-	-	-	-	3,700,000
Whites -	-	-	-	-	-	30,000,000
Mixed races -	-	-	-	-	-	2,300,000
Total -						<u>40,000,000</u>

TABLE OF NORTH AMERICAN MOUNTAINS, WITH THEIR ELEVATIONS.

Rocky Mountains (British North America and United States), average height from 7000 to 8000 feet:—

						Height of sum- mits, in feet.
Mount Brown (N. lat. 52° 35')	-	-	-	-	-	15,900
Mount Hooker (N. lat. 52° 16')	-	-	-	-	-	15,700
Mount Murchison (N. lat. 52°)	-	-	-	-	-	15,789
Vermilion Pass (N. lat. 51° 10')	-	-	-	-	-	4,944
Fremont's Peak (N. lat. 43° 10')	-	-	-	-	-	13,570
Long's Peak (N. lat. 40° 20')	-	-	-	-	-	13,575
James's Peak (N. lat. 38° 50')	-	-	-	-	-	11,320
Spanish Peaks (N. lat. 37° 20')	-	-	-	-	-	11,000

West Coast Ranges (Russian America, British Territory, and United States):—

Mount St. Elias (N. lat. 60° 20', W. long. 140° 30')	-	-	-	17,900
Mount Fairweather (N. lat. 59° 2')	-	-	-	14,750
Mount St. Helens (N. lat. 46°)	-	-	-	12,000
Mount Hood (N. lat. 45° 14')	-	-	-	12,000
Sierra Nevada (of California), highest peaks exceed	-	-	-	10,000

Apalachian, or Alleghany Mountains (United States), from 2500 to 5000 feet:—

Mount Washington (N. lat. 44° 12', W. long. 71° 10')	-	-	-	6,214
Peaks of Otter (N. lat. 37° 23', W. long. 79° 25')	-	-	-	4,360
Mitchell's Peak (North Carolina)	-	-	-	6,720

Highlands of Mexico :—

						Height of sum- mits, in feet.
Colima (W. long. 103° 7') Volc.	-	-	-	-	-	9,193
Jorullo (W. long. 101° 30') V.	-	-	-	-	-	4,114
Toluca (W. long. 99° 26') V.	-	-	-	-	-	15,271
Popocatepetl (W. long. 98° 30') V.	-	-	-	-	-	17,773
Orizaba, or Citaltepetl (W. long. 97° 11') V.	-	-	-	-	-	17,373

Highlands of Central America:—

Volcano de Agua (N. lat. 14° 13', W. long. 90° 41')	-	-	-	-	12,260
Volcano de Fuego (N. lat. 14° 20', E. long. 90° 59')	-	-	-	-	13,160
Volcano of Cartago (N. lat. 10° 10', W. long. 83° 40')	-	-	-	-	11,480

WEST INDIES.

Cuba: Pico de Tarquino (Sierra Maestra)	-	-	-	-	-	7,800
Jamaica: Blue Mountains	-	-	-	-	-	7,150
Hayti: Mountains of Cibao	-	-	-	-	-	8,600
Porto Rico: Sierra de Languilla	-	-	-	-	-	3,678
St. Christopher: Mount Misery	-	-	-	-	-	3,711
Nevis: highest point	-	-	-	-	-	2,500
Guadeloupe: La Soufrière	-	-	-	-	-	5,108
Dominica: highest point	-	-	-	-	-	6,000
Martinique: Mont Pelée	-	-	-	-	-	4,450
St Lucia: Great Piton	-	-	-	-	-	2,710
St. Vincent: Soufrière	-	-	-	-	-	3,000
Morne Garou	-	-	-	-	-	4,800
Grenada: highest point	-	-	-	-	-	3,020

CHAPTER XIV.

NATIONAL DIVISIONS OF NORTH AMERICA.

(720.) THE north-western coast of America, from the line of the 141st meridian to Behring Strait, belongs to Russia. With this exception, all that large portion of the continent which lies to the northward of the Gulfs of Mexico and California is divided between two nations—Great Britain and the United States. The boundary between these two powers is formed by the line of the 49th parallel, the great lakes belonging to the basin of the St. Lawrence, and a tract of high ground which borders on the southern bank of that river.

SECTION I.—BRITISH NORTH AMERICA.

(721.) British North America extends from the line of the 49th parallel and the basin of the St. Lawrence northward to the shores of the Polar Sea, and from the meridian of 53° on the east to that of 141° on the west. The whole area of the territory embraced within these limits exceeds three millions of square miles. But only portions of this immense region are actually colonised, and the larger part of it has a climate too severe, and a soil too sterile, to admit of the successful pursuit of agriculture.

The settled portions of British North America comprehend Canada, New Brunswick, Nova Scotia, Cape Breton Island, Prince Edward Island, and Newfoundland, all of which are colonies belonging to the British Crown, and are situated either within the basin of the St. Lawrence, or adjacent to the gulf of that name. To these have been added, within a recent period, the colonies of British Columbia and Vancouver Island, on the side of the Pacific.

CANADA.

(722.) *Extent and Boundaries.*—Canada lies almost

entirely within the basin of the St. Lawrence. Its most eastern point is Cape Gaspé, upon the coast of the Gulf of St. Lawrence: thence it extends westward to a short distance beyond the meridian of 90° W., near the northern shores of Lake Superior, in a curved line of about 1400 miles long.

Upon the south, Canada is bounded by the United States; upon the north side it has no defined limit, but is regarded as including all the country watered by streams which flow into the St. Lawrence—that is, all the land which lies within the line of watershed between the St. Lawrence and the rivers falling into Hudson's Bay.

The average breadth of Canada varies between two and four hundred miles, and the entire area of the province is little less than 350,000 square miles.

(723.) *Natural Features.*—The great natural features of Canada are the river St. Lawrence and the chain of lakes from which it descends. Four of these lakes, Ontario, Erie, Huron, and Superior, have a large portion of their shores situated within the limits of this province; Lake Michigan is wholly within the territory of the United States.

The country which extends beyond the immediate banks of the St. Lawrence upon either side consists of a succession of plains, terraces, and elevated platforms or table-lands. But the height is nowhere considerable, and rarely exceeds from seven to eight hundred feet.

In its course between Lake Ontario and the town of Quebec, the St. Lawrence spreads out in several places into lakes of some magnitude: the first of these, immediately below Lake Ontario, is known as the Lake of the Thousand Isles, from the immense number of islets with which it is studded. Lower down its course are the Lakes of St. Francis, St. Louis, and St. Peter, the last of which is about nine miles in width. At Quebec the river is not more than three-quarters of a mile wide, but below this point it continually increases in breadth, and expands into a broad estuary before reaching the Gulf of St. Lawrence. At the mouth of the river is the large island of Anticosti, which is 125 miles long by 30 broad.

Anticosti Island is low and swampy on the south side; high in the centre and north. The interior is covered with forests, in which various wild animals abound. Interspersed among the forests are tracts of rich meadow-land. The fisheries, both around the shores, and in the numerous rivers of the interior, are of great value. Anticosti is only inhabited by a few families placed there for the purpose of affording assistance to the crews of vessels which have suffered shipwreck in the neighbourhood of its shores. It is included within the government of Newfoundland.

The St. Lawrence is navigable for vessels of 600 tons burden as far as the city of Montreal (580 miles above the Gulf). Extensive works have been constructed for the improvement of the navigation between Montreal and Lake Ontario, in which portion of its course the river is naturally much obstructed by rocks. By the aid of locks, combined with short lateral cuts and canals for the avoidance of the principal rapids, vessels of considerable size are now enabled to pass up to Lake Ontario nearly along the direct line of the river.

The principal tributaries of the St. Lawrence are the rivers Ottawa, St. Maurice, and Saguenay, upon the northern bank, and the Chambly or Richelieu, St. Francis, and Chaudière, upon the southern. The Ottawa (which issues from Lake Temiscaming, and flows in a south-eastern direction to the St. Lawrence) has numerous falls and rapids, and, like the St. Lawrence, expands in some places into lakes. By the help of artificial means its lower course is rendered navigable, and has been connected with Lake Ontario by the Rideau Canal.

The Chambly or Richelieu issues from Lake Champlain, a long and narrow body of water within the United States frontier ; it is navigable for decked vessels to a distance of twelve or fourteen miles from its mouth, and up to Lake Champlain for boats and canoes.

(724.) From the junction of the Ottawa downwards to a considerable distance below the mouth of the St. Maurice, the banks of the St. Lawrence are low, or only of moderate elevation, and this low country continues for some distance inland ; towards Quebec the shores assume a bold and steep aspect, and (except at occasional intervals), preserve this character to the mouth of the river. Upon the south side of the St. Lawrence, the country which extends over the lower course of the St. Francis forms a level plain, one of the most fertile and best cultivated tracts in the province.

The country lying on the northern banks of the St. Lawrence, above the junction of the Ottawa, is only of moderate elevation : it contains numerous small lakes, and some extensive marshes, but the soil is in general very fertile. Further to the westward, a narrow plain extends along the shores of Lake Ontario, but the country rises towards the north into a plateau of considerable elevation : this plateau attains a height of 750 feet above the level of Lake Huron (or 1300 feet above the sea), where it approaches that body of water.

The peninsular portion of Canada, enclosed by lakes Huron and Erie, with the western extremity of Lake Ontario, is a level or slightly undulating plain, the whole of which possesses an alluvial soil of great fertility. This is one of the finest districts in Canada, and is rapidly increasing in population and importance. It is watered by numerous rivers, the two most important of which are the Ouse (which flows to the south-eastward into Lake Erie), and the Thames, which runs in a south-westerly direction and enters the Lake of St. Clair (midway between the channel which unites Lakes Huron and Erie). Both these rivers are navigable for small schooners in their lower courses, and for boats almost through their entire length.

The river Niagara, which connects Lakes Erie and Ontario, is precipitated in its mid-course down the stupendous falls of that name ; but a navigable communication between the two lakes is effected by means of

the Welland Canal (to the westward of the river), which admits vessels of 450 tons burden

The country lying to the northward of Lakes Huron and Superior forms a table-land of considerable elevation, upon the surface of which are numerous lakes and small rivers: this tract contains few permanent settlements, and is comparatively little known.

(725.) *Climate and Natural Productions.*—The climate of Canada presents great extremes of heat and cold, especially in the lower or eastern part of the province. The mean summer temperature is here about 70° , and the temperature of winter varies from 20° above to 25° below zero. The seasons of spring, summer, and autumn, are comprehended between the months of May and September: in October the frosts begin, and during November and the first three weeks of December snow-storms are incessant. After this period the atmosphere clears, an intense and dry frost succeeds, and continues until April or May, during the whole of which time the sky is serene, and of a bright azure hue. Throughout this long winter the ground is buried under a hard covering of ice and frozen snow. The snow begins to melt in April, and has all disappeared by the first or second week in May: summer is then fully established, and the vegetation, already in active progress beneath the surface, breaks forth in profuse luxuriance.

In the upper or western portion of Canada, particularly in the country which borders on the great lakes, the climate is much less extreme, and the winter of shorter duration. In all parts of Canada the air is dry and healthy: fogs are almost unknown, and the cold of winter is rendered less severe in its effects by the general absence of wind during the greatest intensity of the frost. Indeed this season is one of general amusement and rejoicing in Canada: the labours of agriculture are necessarily suspended, but numerous amusements are practised on the ice, and the inhabitants travel with ease and rapidity in sledges drawn by a single horse over the frozen surface of the ground.

The mineral resources of Canada are very great, but have until lately been almost entirely neglected. Iron is abundant in all parts of the province, particularly in the neighbourhood of Lakes Erie and Ontario, as well as in the province of Montreal, and to the northward of the river Saguenay. Plumbago, and ores of antimony, lead, and copper, are also found. Copper is abundant in the tract to the northward of Lake Superior, and its produce is now very considerable; gold, silver, and tin, have also been met with in the same region. The northern and western shores of Lake Ontario abound in salt springs, and the north shores of Lake Erie exhibit immense beds of gypsum, some of which is quarried for agricultural purposes. Various kinds of marble, with serpentine, granite, and other igneous rocks, are abundant.

But the productions of the forest are the most characteristic wealth of

Canada. The variety of trees is astonishing : among the most common are numerous pines and firs, with the maple, white cedar, birch, ash, oak, beech, elm, hazel, cherry, cypress, poplar, willow, and sycamore. One of the most useful is the maple, from the sap of which excellent sugar is made. The trees not available for timber serve to supply the pot and pearl-ash manufactories.

Wild animals (including the moose-deer, bear, wolf, wild-cat, fox, lynx, and others) are numerous, but are gradually disappearing before the increasing population and advancing extent of the settled portions of the province. The beaver, which was formerly very abundant, is now seldom found within reach of the white settlements. Two species of rattle-snake occur, but these are not numerous. Fish abound in all the rivers and lakes, and include the sturgeon, pike, trout, and a species of fresh-water herring. Salmon are plentiful in Lake Ontario, but are not found above the falls of Niagara. Seals are numerous in the lower portion of the St. Lawrence.

(726.) *Inhabitants.* — The present population of Canada is little short of three millions. In the eastern and older-settled portions of the province more than half the inhabitants are of French descent, the remainder consisting chiefly of emigrants from Britain. In Western or Upper Canada, the population is composed principally either of British or Irish emigrants, and their descendants; and in some localities there are numerous settlements of Germans. Emigration to both divisions of the province, but particularly to the upper portion, continues in active progress from all parts of Great Britain and Ireland.

The French inhabitants of Lower Canada preserve their native language, corrupted by some intermixture of English words. They are a kind and warm-hearted people, but averse to improvements, and jealous of English rule.

The Indians in Canada are fewer than 40,000 in number, and are rapidly decreasing. They belong entirely to the two nations of the Ojibbeways and Mohawks (or Iroquois), and dwell in the tracts bordering on the great lakes. A few have settled in villages and embraced Christianity, but the majority are hunters, and have no fixed place of abode.

(727.) *Industrial Pursuits.* — In Canada, the clearance of the ground and the culture of the soil are the main business of the settler's life. The total quantity of land at present brought under cultivation forms but a very small proportion of the entire area of the province. The soil is in general fertile, so much so that fifty bushels of wheat per acre is frequently produced from ground still partially encumbered by stumps of trees, and in some parts of Upper Canada 100 bushels of wheat have been grown on a single acre.

The grains cultivated in Canada are wheat, barley, rye, oats, buckwheat, and maize. Wheat is the staple of the western division of the province, and bears a higher price in the market than that grown elsewhere. The potato-crops throughout the province are excellent and

abundant, and all the vegetables of the temperate regions of the Old World grow in the greatest luxuriance. Tobacco, hemp, and flax, are successfully cultivated, and the two latter are indigenous. The cotton-plant grows wild in the neighbourhood of Montreal, and attains a considerable size. The fruits of Europe are also abundantly produced, especially in Western Canada, where the peach and grape both come to perfection, as well as many of those common to the warmer latitudes of the eastern continent.

But forests still cover by far the larger part of Canada, and furnish the material upon which a great portion of its industry is occupied. More than 17,000,000 cubic feet of white pine alone have been exported from Quebec within a single year. The quantity of maple-sugar that is made is very considerable, especially in the upper portion of the province. The numerous grist, oatmeal, and barley mills, with saw-mills, fulling-mills, carding-mills, threshing-mills, and tanneries, indicate the occupations of a large proportion of the settlers. Pot and pearl-ash factories are also very numerous, and there are paper-mills, iron-works, distilleries, and breweries. In Montreal and elsewhere there are manufactures of blankets, carpeting, grey cloths, and a variety of coarse woollen and linen goods, as well as of leather, agricultural implements, furniture, and other articles.

Farm labourers, and mechanics of nearly every kind, are the class of emigrants most in demand in Canada; bricklayers, carpenters, and cabinet-makers, millwrights, painters, plasterers, sawyers, shoemakers, stone-masons, and other artisans, readily meet with employment, and obtain good wages.

Canada carries on an extensive trade with Great Britain, the West Indies, and the United States. The imports consist of coals, metal, cordage, and various manufactures, from the United Kingdom;—sugar, molasses, coffee, and rum, from the British West Indies;—beef and pork, biscuit, rice, and tobacco, from the United States.

The exports are pot and pearl-ashes, wheat, flour, and timber, to Great Britain;—beef and pork, beer, grain, and flour, to the British West Indies;—lumber, wheat, flour, butter, and live stock, to the United States.

The internal traffic of Canada has hitherto been chiefly carried on by means of the lakes and rivers, or the canals that have been constructed in order to overcome the natural impediments to navigation which the latter present. But there are now good roads in most parts of the province, and railway-communication already extends throughout its limits. A great line of railway traverses the valley of the St. Lawrence, from Montreal upward, passing the shores of Lake Ontario and through the fertile tract of country that lies to the northward of Lake Erie, with branches to the principal places of note in Upper Canada. A stupendous railway-bridge, recently completed over the St. Lawrence at Montreal, connects the Grand Trunk Railway of Canada with the various lines of railway in the neighbouring portions of the United States. Boston, Portland, and other places on the coast of New England, are thus brought into direct and rapid communication with the great seats of commerce in the valley of the St. Lawrence.

(728.) *Divisions and Towns.* — This province is divided into Western and Eastern Canada, the line of boundary being

formed principally by the course of the river Ottawa. Eastern Canada, however, includes a small portion of the country enclosed between the Ottawa and the St. Lawrence. These divisions were formerly called Upper and Lower Canada, by which names they are still most familiarly distinguished.

EASTERN (OR LOWER) CANADA contains five districts, which (proceeding from the mouth of the river upwards) are named Gaspé, Quebec, Three Rivers, St. Francis, and Montreal. These are subdivided into thirty-six counties.

The principal places in Lower Canada are Quebec, Three Rivers, and Montreal, all situated on the banks of the St. Lawrence. Quebec and Montreal are the two largest cities in Canada.

Quebec (65,000 inhabitants), the capital of the province, stands on the north bank of the St. Lawrence, at the point where the narrower portion of its channel commences. It is divided into an upper and a lower town; the upper town is built on a high promontory which projects into the river, and is surrounded by a wall and strongly fortified: the lower town lies round the base of the rock, and contains the wharfs, dock-yards, markets, and several of the public buildings. Quebec first came into the permanent possession of the English in 1759, when the gallant commander of the English army, General Wolfe, fell in the battle fought on the plains of Abraham, close to the town. A monument has been erected in the upper town to the memory of Wolfe and Montcalm, the brave commander of the French forces on that occasion.

Three Rivers (7000 inhabitants) is advantageously situated at the junction of the river St. Maurice with the St. Lawrence.

Montreal (60,000 inhabitants) lies on the east side of an island of the same name, which is formed at the junction of the Ottawa and the St. Lawrence. The island of Montreal is 35 miles long by 10 miles broad, and is very fertile: its name is a corruption of Mont Royal—the appellation bestowed by the French adventurers who first visited this region upon an eminence which pleasingly diversifies the general level of the surface. The upper and newer portion of the city is well-built, and contains many fine public edifices:—among these is a Roman Catholic cathedral, one of the finest buildings in the New World. Montreal is a place of great trade.

The small towns of *Côteau du Lac* (on the north bank of the St. Lawrence, above the junction of the Ottawa), *La Prairie* (on the south bank of the St. Lawrence, opposite Montreal), *Sorel* or *William Henry* (at the confluence of the Richelieu and the St. Lawrence), with *Stanstead* and *Sherbrooke*, both situated in the inland part of the province, to the southward of the St. Lawrence,—are thriving places. Stanstead and Sherbrooke are the principal places in a district known as the 'Eastern Townships,' situated in the neighbourhood of the river St. Francis, a tract which has of late years been in rapid course of colonisation.

(729.) WESTERN (OR UPPER) CANADA is divided into

twenty districts, which are subdivided into counties. The three most considerable towns are Toronto, Kingston, and Ottawa, the last-named of them designated as the future capital of the entire colony.

Toronto (50,000 inhabitants) stands on the northern shore of Lake Ontario, and possesses an excellent harbour. The adjacent district is rapidly increasing in population. *Toronto* (formerly *York*) was only founded in 1794, but has fast grown in importance, and is now the chief place in Upper Canada.

Kingston (12,000 inhabitants), on the north-east shore of Lake Ontario, at the point where the St. Lawrence issues from it, is an important seat of trade. In its neighbourhood is Navy Bay, which is the principal British naval station on the lakes. *Ottawa* (formerly *Bytown*), situated at the junction of the Rideau Canal with the river Ottawa, has upwards of 20,000 inhabitants, and is rapidly increasing.

Among the other principal places in Upper Canada are *Cornwall* (on the north bank of the St. Lawrence), *Coburg* (on the north side of Lake Ontario), *Hamilton* (at the s. w. angle of Lake Ontario), *Niagara* (at the mouth of the river of that name, below the falls), *London* (on the river Thames, midway between Lakes Erie and Huron), *Chatham* (on the lower portion of the same river), and *Amherstburg*, near the mouth of the river Detroit, at the head of Lake Erie.

(730.) Canada was originally a French settlement, first established in 1608, when the city of Quebec was founded. The sovereignty of the province was ceded to Britain in 1763, since which time it has remained a British colony.

For a long period previous to the year 1840, the upper and lower portions of the province were under separate administrations, each having its own local legislature. But in that year the whole territory was formed into a single province. The political constitution of Canada embraces an elective House of Assembly, with a legislative Council and a Governor appointed by the Crown.

Canada is divided into the three Protestant dioceses of Quebec, Montreal, and Toronto. The majority of the inhabitants of Eastern Canada (who are chiefly French) are followers of the Roman Catholic religion. In both divisions of the province liberal provision is made for education, and besides numerous elementary schools, there are several high schools and colleges. Toronto is the seat of a university, established by royal charter, and liberally endowed.

NEW BRUNSWICK.

(731.) New Brunswick lies to the eastward of Canada. On the east and south it borders on the Gulf of St. Lawrence and the Bay of Fundy; on the west, the river St. Croix and the meridian of 67° 53' w. divide it from the territory of the United States: on the north it is terminated by the course of the river Ristigouche, which falls into the Bay of

Chaleurs, on the western side of the Gulf of St. Lawrence. The area of the province is little short of 30,000 square miles.

The surface of New Brunswick is varied. Along the shores of the Gulf the country is generally level, but begins gradually to rise at a distance of about twelve miles inland. The tract which lies along the Bay of Fundy has a rocky and uneven surface, and to the eastward of the river St. John forms a plateau of several hundred feet in height. Along the immediate banks of the St. John there is a considerable extent of level country. The most mountainous portion of the province is in the north, where there is an extensive tract of irregular and rugged country, which divides the rivers flowing into the Gulf of St. Lawrence from the affluents of the St. John.

The longest river of New Brunswick is the St. John, which flows into the Bay of Fundy, after a course of about 400 miles: it is navigable for sloops up to Fredericton (a distance of eighty miles), and for flat-bottomed boats up to the Great Falls, nearly 200 miles above its mouth.

The St. Croix falls into Pasamaquoddy Bay,—an arm of the sea lying on the borders of New Brunswick and the United States. The Miramichi, which drains the central parts of the province, flows eastward into the Gulf of St. Lawrence: it is the next river to the St. John in magnitude, has a course of about 120 miles, and is navigable for nearly forty miles. The basin of the Miramichi contains abundance of fine timber. The Ristigouche, which falls into the Bay of Chaleurs, has a length of about eighty-five miles.

The climate of New Brunswick resembles in many respects that of Canada: the heat in summer is often intense, whilst in winter the cold is severe, and the country is covered with snow for about four months annually. But the cold is not so long in duration as in the eastern portion of Canada, and the lower part of the basin of the St. John is more temperate than its upper and more elevated portion. The air is generally healthy.

Among the most valuable natural productions of the province are its minerals: iron ore is particularly abundant, and good coal is worked. Plumbago also occurs; and turquoise, cornelian, and other valuable stones, are found. Gypsum is worked along the coast of the Bay of Fundy; grindstones are extensively supplied from this province.

(732.) The population of New Brunswick is nearly 200,000, almost all of British descent: there are a few Indians in the northern part of the province. The settlements are most numerous in the neighbourhood of the Bay of Fundy, and along the lower course of the St. John. The cultivation of the soil is pursued to a considerable extent; maize is grown in the more southern districts, and wheat, flax, and potatoes, in other parts.

But the proportion of land under the plough is very small, and timber has hitherto formed the most important and valuable article of produce. All the kinds of timber common in Canada are also found in this province. The fisheries of New Brunswick are valuable: salmon and trout are taken in the rivers; cod, mackerel, and herrings, upon the coast.

The chief exports of the province are timber and dried fish, with gypsum, coals, and grindstones. The imports are British manufactures and colonial produce. Some ship-building is carried on at St. John's, all the materials, excepting the timber, being supplied from England.

(732.) New Brunswick is divided into ten counties. The seat of government and nominal capital is *Fredericton* (6000 inhabitants), on the south bank of the river St. John, 80 miles above its mouth. But *St. John* (15,000 inhabitants), at the mouth of the river, is the largest town in the province, and the centre of its trade.

The other towns in the province are *St. Andrew's*, on the shore of the Pasamaquoddy Bay,—*Liverpool*, on the coast of the Gulf of St. Lawrence,—*Newcastle*, at the mouth of Miramichi river,—and *Bathurst*, on the south side of the fine Bay of Chaleurs. All these are engaged in the timber trade and the fisheries.

New Brunswick is under the administration of a Lieutenant-Governor, assisted by a legislative and an executive council, and a House of Assembly. The established religion is that of the Church of England, and the province forms the colonial diocese of Fredericton.

NOVA SCOTIA AND CAPE BRETON ISLAND.

(733.) Nova Scotia and the Island of Cape Breton form together a single province.

Nova Scotia is a peninsula, nearly surrounded by the Gulf of St. Lawrence, the Bay of Fundy, and the open portion of the Atlantic. Cape Breton Island lies to the eastward of Nova Scotia, and is divided from it by a channel called the Gut of Canso, which is only three-quarters of a mile wide.

Nova Scotia has an area of 15,600 square miles. The interior forms a table-land of moderate elevation, some portions of which have a hilly surface, and contain numerous small lakes. Some tracts in the south-western part of the peninsula are stony and barren, and in many places the soil of the province is poor; elsewhere, indeed, there are highly fertile districts, but these are of limited extent. There are several rivers, but all of short courses. The coasts contain numerous deep inlets, many of which form excellent harbours.

Cape Breton Island is 3125 square miles in area: it is generally hilly in the interior. The coasts are exceedingly irregular, and on the east side is a large inlet called Le Bras d'Or, which is entered by two narrow channels, and penetrates nearly across the island. The shores of the Bras d'Or contain many small bays and harbours, from which timber is shipped.

The climate, both of Nova Scotia and Breton Island, resembles that of Lower Canada: the winters are very severe and the summers hot, but the air is generally healthy. Fogs are experienced along the line of the Atlantic coast.

The mineral wealth of the colony is very considerable. Coal of excellent quality abounds both in Nova Scotia and Cape Breton Island; and iron ore, gypsum, salt, slate, granite, and sandstone, are worked in the former territory. Grindstones are very extensively quarried, chiefly for export to the United States. Breton Island contains also good building-stone; gypsum likewise occurs, and copper and lead ores are abundant. Valuable iron ore is found associated with the coal.

(734.) Nova Scotia contains a population of 276,000: Breton Island has about 36,000 inhabitants. Among the inhabitants of Nova Scotia there are still about 2000 Indians, who are fast diminishing in number. A large proportion of the settlers in Breton Island are emigrants from the highland regions of Scotland: a few Indians are also left on this island.

The agricultural produce of this province is not considerable; timber is still very abundant, notwithstanding the large quantities of it which have been annually exported for a long period. Among the most numerous members of the forest in Nova Scotia are the maple, poplar, and American elm; with the beech, ash, birch, larch, and various pines. The varied and brilliant autumnal foliage of the trees in a North American forest rarely fails to arrest the attention, and awaken the admiration, of the traveller.

The fisheries, both of Nova Scotia and Breton Island, are exceedingly valuable; the coasts literally swarm with shoals of the cod, mackerel, herring, sturgeon, haddock, and many others. At a short distance from the shore, the whale, porpoise, and grampus, are found.

A large portion of the settlers in these territories are engaged in the timber trade, many of the farmers themselves cutting timber (or lumber, as it is called in North America) from the forests, afterwards shipping it on vessels of their own build, and carrying it for sale to Boston or other ports of the United States.

The exports of this province are lumber, coals, gypsum, grindstones, dried fish, and fish-oil: the imports are British manufactures and West India produce. The gypsum and grindstones are chiefly supplied to the northern and middle portions of the United States; the fish-oil, and some portions of the lumber, to Britain; the remainder, with dried and pickled fish, and salt provisions, principally to the West Indies and some of the Southern States of the American Union.

(735.) Nova Scotia is divided into nine counties. *Halifax* (25,000 inhabitants), the chief town, and the capital of the entire province, is situated on the south-east coast of the peninsula. The inlet upon which it stands forms a magnificent harbour, of easy access. *Halifax* possesses an extensive dockyard, and is the principal naval station of Britain in this part of the world. It is the nearest port to Britain upon the coasts of the American continent, and a great packet-station. The sailing distance between Liverpool and *Halifax* is accomplished in twenty-one days, and steamers between these ports generally traverse the Atlantic in ten days.

Among the other towns in Nova Scotia are *Lunenburg* and *Liverpool* (both on the coast, to the south-west of *Halifax*); *Yarmouth* (on the

s. w. coast, at the entrance of the Bay of Fundy) ; *Annapolis* (on the E. side of the last-named inlet) ; *Pictou* (upon the shore of Northumberland Strait, on the N. E. coast) ; and *Windsor* (to the north-westward of Halifax, in the interior). Windsor is the seat of a college.

The island of Cape Breton is divided into three districts or counties : the only town is *Sydney*, a small place on the east coast, with about 1000 inhabitants. In its neighbourhood are valuable collieries, which furnish the chief staple of its trade. *Louisburg*, on the s. E. shore of the island — once a strongly fortified port — played an important part in the struggle for dominion between the French and English in this part of the world. It was captured by the English in 1758, and the fortifications razed to the ground. The small island of St. Paul, situated off the northern point of Breton Island, has been noted for the numerous wrecks found upon its shores.

The colony of Nova Scotia and Cape Breton Island is under the charge of a Lieutenant-Governor, with a Council appointed by the Crown, and a House of Assembly elected by the inhabitants. It forms (together with Prince Edward Island) the diocese of Nova Scotia, one of the colonial bishoprics of the English Church.

PRINCE EDWARD ISLAND.

(736.) Prince Edward Island lies in the south-western part of the Gulf of St. Lawrence. It is divided from the shores of Nova Scotia and New Brunswick by a channel called Northumberland Strait, which varies from eleven to twenty miles in width.

Prince Edward Island is long and narrow in shape. Its coasts are indented by numerous inlets, two of which nearly penetrate across the island ; these are Hillsborough Bay on the south coast, and Richmond Bay on the north. The area of the island is 2130 square miles.

The interior of Prince Edward Island is generally level ; the soil is very fertile, and the vegetation reaches to the water's edge. It contains several short rivers, the principal of which is called the Hillsborough, and falls into the bay of that name. The climate is very healthy ; it is much milder and more equable than that of the adjacent colonies, and is equally free from the hot summers and intensely severe winters which are experienced on the neighbouring mainland. Nor is this island subject to fogs, which prevail in the more eastern parts of the gulf. The winter, though cold, is of shorter duration than that of either Canada or Nova Scotia.

Prince Edward Island has no minerals of importance. A large portion of the land has been brought under cultivation, but there is still a considerable quantity of good timber ; the pine is becoming scarce, but the oak, elm, larch, and ash, abound. Sarsaparilla and ginseng also grow plentifully.

This island contains 62,000 inhabitants, chiefly the descendants of emigrants from the United Kingdom, among whom a large proportion are Scotch. There are a few Indian families still left on the island.

Agriculture is the chief business of the settlers, and a considerable surplus of produce is raised. This is shipped principally to the neighbouring colonies of Nova Scotia and New Brunswick ; it embraces wheat, barley, oats, and potatoes, with flour, oatmeal, cattle, sheep, and hogs. The fisheries are valuable, and include the cod, herring, mackerel, and many others ; lobsters are plentiful and good, and the oysters are said to be the best in America.

Prince Edward Island is divided into three counties. The capital of the island is *Charlotte Town*, on the shore of Hillsborough Bay, which forms an excellent harbour ; it contains 2000 inhabitants, and is of easy access both by land and water from all parts of the island. *George Town*, upon the east coast, has also a good harbour, and considerable trade in timber.

This island forms a distinct colony, the government of which is vested in a Lieutenant-Governor, a Council, and a House of Assembly—the latter elected by the inhabitants. It is included within the diocese of Nova Scotia.

NEWFOUNDLAND.

(737.) Newfoundland is a large island situated on the eastern side of the Gulf of St. Lawrence, and divided from the coast of Labrador by the Strait of Belle Isle, the narrowest part of which is less than twelve miles across. The broader channel which intervenes between Newfoundland and the northern extremity of Cape Breton Island is sixty miles in width. Upon the north, east, and south, the coast of Newfoundland is open to the waters of the Atlantic.

The area of Newfoundland is about 36,000 square miles : its coast-line is exceedingly irregular, forming a succession of deep bays and estuaries, with peninsulas and headlands between. Many of the inlets form excellent harbours, in which the shores of the island everywhere abound.

Among the principal inlets are Conception, Trinity, Bonavista, Notre Dame, White, and Hare Bays, on the eastern and northern coasts ;—St. George's Bay on the west side ; and Fortune, Placentia, and St. Mary's Bays, on the south. Trinity and Placentia Bays are only separated by a narrow isthmus of a mile in width, and nearly divide the south-eastern peninsula from the rest of the island. This south-eastern tract forms the peninsula of Avalon, and is the most populous and fully-settled portion of Newfoundland.

The appearance of Newfoundland from the sea is exceedingly rugged especially so on the western coast, which is in general high and rocky ; the eastern side of the island consists principally of low hills. The interior contains chains of hills, with numerous rivers and lakes, some of the

latter of considerable size. The ground appears to be in many parts rocky and barren, but there are tracts of alluvial soil along the banks of the rivers. All the settlements, however, are confined to the immediate neighbourhood of the coast, and the more distant parts of the interior are seldom visited.

The winter in Newfoundland is long and severe, though less so than on the adjacent mainland. During the greater portion of the year the atmosphere is humid, and fogs are very prevalent; but the summers are dry, and their heat very great. It is only during the setting-in and breaking-up of the winter that the moisture of the air is felt to an unpleasant extent, and especially at the latter period, in the months of April and May, when the great fields of ice which float to the southward are near the coasts. At other seasons the sky is often cloudless and serene, and the brilliant coruscations of the aurora are seen during the calm nights in their fullest splendour. Violent snow-storms, accompanied by gales of wind, often occur during the winter. Upon the whole, the climate is healthy, and the inhabitants frequently attain a great age.

Newfoundland is said to contain good coal, besides iron, copper, and other metals, as well as abundance of granite and other building-stones; but the attention of the inhabitants is almost solely directed to the fisheries. There is some timber on the banks of the rivers, but not in any considerable quantity. Deer and foxes are numerous, and bears, otters, hares, and martens, are also found. Beavers were formerly plentiful, but are becoming scarce.

(738.) The fisheries of Newfoundland comprise cod, salmon, herrings, mackerel, caplin, and seal, besides others of less value. The cod-fishery is the most important, and cod are taken in greater numbers on the banks of Newfoundland, and near the adjacent shores, than in any other part of the globe.

The banks of Newfoundland are extensive submarine elevations, which lie in the ocean to the south and south-eastward of the island; they spread over a length of between six and seven hundred miles, with various channels of deep water between. The Great Bank, which lies furthest to the eastward, measures upwards of 300 miles from north to south, and about 250 miles from east to west. The depths of water over it vary between fifteen and eighty fathoms: its bottom consists generally of sand, sometimes mixed with shells and gravel. The temperature of the water on the Great Bank is 10° or 12° *lower* than in the surrounding ocean: a great swell and thick fog also usually serve to indicate its place. Cod-fish are found on the Great Bank in the most extraordinary abundance, and their annual capture in this locality for nearly the last two hundred years does not appear to have diminished in any degree the vast multitude of their shoals. But of late years the bank-fishing has been chiefly prosecuted by the French and Americans, the English fishermen preferring to confine their labours nearer to the shores of the island, on account of the greater facilities thereby afforded for drying and curing their fish. The continual fogs which cover the bank, with the frequent rain and sleet, also occasion much inconvenience.

There are three distinct qualities of cod-fish cured in Newfoundland. Those of the largest size and finest quality are distinguished as *merchantable fish*. The second kind, known as *Madeira fish*, are chiefly used to supply the Spanish and Portuguese markets; while the third and inferior

kind are exported entirely to the West Indies, where they are extensively consumed by the Negro population.

The cod-fishery does not commence until the early part of June ; during the greater part of the three preceding months the hardy boatmen of Newfoundland are actively engaged in the capture of seals, which are numerously taken on the extensive fields of ice which then cover large portions of the adjoining seas.

Newfoundland has a population exceeding 100,000, a large proportion of them natives of Ireland. The aboriginal population has altogether disappeared, though a few Indians lingered in the forests of the interior until a recent period.

The cultivation of the soil is only pursued to a very limited extent, and the island is in great measure dependent upon the coasts of the neighbouring continent, and the countries of Europe, for corn and other provisions. But good barley and oats, as well as vegetables, are grown. The manufactures are limited to stockings, caps, mittens, and other articles of warm woollen clothing. Ship-building is carried on to a small extent, the materials being supplied from New Brunswick.

The exports from Newfoundland consist almost wholly of the produce of the fisheries, and include an immense quantity of dried and cured fish, with sounds, tongues, cod and other fish oils, and seal-skins. The imports are chiefly salted provisions from Ireland and Germany, with flour and meal from the United States and the north of Europe.

St. John's (11,000 inhabitants), the capital of Newfoundland, and the only town on the island, stands upon the south-east coast, on the peninsula of Avalon. It has a good and safe harbour, entered by a long and narrow strait. The shores in the neighbourhood of the town are entirely lined with wharfs, which are occupied by stages for curing fish. The shores of Conception Bay, and other tracts in this part of the island, contain numerous thriving fishing-villages and hamlets ; but excepting within the limits of this peninsula there is no settlement—nor even a single house—at a greater distance than a mile from the coast.

Newfoundland forms a separate colony, administered by a Governor appointed by the Crown, with a local legislature. It constitutes one of the colonial bishoprics of the English Church. Half the population, however, are members of the Romish Church.

(739.) The Magdalen Islands, situated in the middle of the Gulf of St. Lawrence, are included within the government of Canada. They contain about 1100 inhabitants, whose means of subsistence are derived from the fisheries. Gypsum and iron ore are found on these islands. There is little timber, but the wrecks of vessels generally furnish a sufficient supply of fuel.

(740.) The greatly larger portion of the vast additional territory included within British North America,—which to the north of the 49th parallel stretches across the entire breadth of the continent, from the Atlantic to the Pacific,—is embraced under the general name of the HUDSON BAY TERRITORY. Over the greater part of this region there are only a few posts, or stations, scattered at wide intervals apart, and maintained by the officers of the Hudson Bay Company for the purpose of collecting the skins of the numerous fur-bearing animals which have here their native seat. But through the whole of this vast territory, of

more than 2500 miles across, a regular communication is kept up between the different posts, and supplies of provisions and other necessities are annually forwarded from the head-quarters of the Company to all the districts within its limits.

In general, both the climate and soil of the above territory are such as to unfit it for cultivation (Art. 715). But exceptions to this character are found in particular districts, especially along its southern limits. The whole tract is thickly studded with lakes, and abounds in rivers: these supply abundance of fish, which form the principal food both of the native Indians, and of the white settlers located at the different stations. The various fur-bearing animals are numerous; their skins form the chief article of traffic, and are almost the sole objects for which the country is frequented. The animals hunted for food are the moose-deer or elk, the reindeer, the red and several other species of deer, the buffalo, and a species of antelope, and there are also good rabbits and porcupines. The numerous birds which resort to these latitudes at particular seasons contribute towards the subsistence of the traders. Large flocks of wild geese and ducks come from the south in the spring, and remain during the warmer portion of the year; great numbers of them are killed in the autumn, on their return to lower latitudes, and are cured and laid up as provision for winter use.

There is, however, reason to believe that this immense range of territory contains mineral treasures which far surpass in value all the returns which the fur trade can ever yield. Coal is known to exist in many districts at wide intervals apart, and numerous indications of varied metallic wealth have been observed.

The few native inhabitants of this region are some Indian nations (who dwell principally in the interior plains, towards the Rocky Mountains), and the Esquimaux, who inhabit the coasts from Labrador westward to the mouth of the Mackenzie (Art. 719). The Indians are rapidly diminishing in number,—owing in great measure to the spread of diseases introduced amongst them by Europeans, and to the excessive use of ardent spirits. With a few occasional exceptions, they retain their accustomed habits as hunters and wanderers, and the attempts made to induce them to engage in agricultural pursuits have not been attended with any general success. The Esquimaux are a harmless and inoffensive people, but are sunk in almost the lowest condition of life,—maintaining with difficulty a struggle for existence amidst the natural hardships by which they are surrounded in this inclement region.

The most eastern part of British North America is the coast of Labrador, which forms a portion of the peninsular territory situated between Hudson Bay and the Atlantic. Labrador is attached to the government of Newfoundland. On this coast a few missionary settlements are maintained by the Moravians, for the religious instruction of the Esquimaux. The names of these are Hopedale, Nain, Okak, and Hebron. Some of the Esquimaux have been taught the arts of civilised life. This coast is chiefly frequented for the sake of the seal-fishery. The country upon the east side of Hudson Bay is called East Main.

The country lying between the Rocky Mountains and Labrador is now generally known as RUPERT LAND, under which name it has been erected into a colonial bishopric of the English Church. The tract lying to the south-westward of Hudson Bay, and that situated around the

basin of Lake Winnipeg, are the most frequented and best-known portions of this territory.

York Factory or *Fort York*, the principal trading station of the Hudson Bay Company, is situated on the banks of Hayes River, about five miles above its entrance into Hudson Bay. At a greater distance in the interior, the Company possess numerous trading-posts,—some of them distinguished by the appellation of *house*, as Cumberland House, and others. Fort Macpherson, the most northern of these establishments (situated on the banks of Peel River, to the west of the Mackenzie), is in latitude $67^{\circ} 30' \text{ N}$. The pine and the alder are abundant in its neighbourhood ; and a vigorous vegetation, composed of these trees, together with several arboreous plants and various saxifrages, lichens, grasses, and moss, clothes the valleys of the adjacent Rocky Mountains. The *pinus alba*, the king of the Arctic forests, here grows to a height of 70 feet, and is upwards of three feet in diameter at the base.

At Fort au Liard (lat. $60^{\circ} 5' \text{ N}$., long. $122^{\circ} 31' \text{ W}$.), which has an altitude of between 400 and 500 feet above the sea, wheat is raised, and yields a good return in favourable seasons, though in some years it does not ripen. At Dunvegan, on Peace River (lat. $56^{\circ} 6' \text{ N}$., long. $117^{\circ} 45' \text{ W}$.), at an altitude of 778 feet, the cultivation of this grain is equally precarious, but it grows freely on the banks of the Saskatchewan, excepting near Hudson Bay, where the summer temperature is too low. Oats are little cultivated in Rupert Land, since they require a longer time to ripen than barley does ; good crops of them have, however, been raised at Fort Simpson (lat. $61^{\circ} 51' \text{ N}$.). In good seasons, barley ripens well at Fort Norman, on the 65th parallel. Potatoes yield abundantly at Fort au Liard, and grow, though inferior in quality, at Fort Simpson and Fort Norman. They have not succeeded at Fort Good Hope, near the 67th parallel, but turnips have grown well there in favourable seasons.

The tract situated to the southward of Lake Winnipeg is called the Red River Settlement, from the stream of that name. The upper portion of the Red River is within the United States, whence it flows northward, receiving several other streams above its termination in Lake Winnipeg. The residents in this settlement are composed chiefly of emigrants from the Scotch highlands, with old servants of the Hudson Bay Company, and a few Indians and half-castes. The winter is severe, but the soil is fertile, and abundant crops of grain are generally raised. The settlers possess great numbers of sheep and cattle, besides horses, hogs, and poultry. The population of the Red River Settlement is about 6000.

The Hudson Bay Company was established in the reign of Charles II. for the prosecution of the trade in furs. Its territorial jurisdiction, originally limited to the tract of country watered by rivers that fall into Hudson Bay, became subsequently extended over the whole vast region stretching from Labrador to the Rocky Mountains, and even to the waters of the Pacific.

(741.) **BRITISH COLUMBIA**, the latest-organised of the British settlements in the New World, embraces an extensive tract of country lying between the Rocky Mountains and the Pacific Ocean, and reaching from the United States frontier northward to the parallel of 57° . It includes an area of about 225,000 square miles.

The extensive valley of the Fraser river forms the chief feature of British Columbia. The discovery of rich gold-fields within the tracts watered by the Fraser and its tributaries led (in 1858) to the formation of British Columbia into a colony, under the rule of a governor appointed by the Crown. The entire province is well watered, and its climate and soil appear to be of the most favourable description.

The native population included within British Columbia is estimated at 75,000. Under the attractive influence of the gold-fields, a rapid stream of immigration from the neighbouring territory of the United States, as well as from more distant localities, at once set in thither, and there are already several thousand settlers within the province. The town of *New Westminster*, founded on the north bank of the Fraser, a few miles above its mouth, is designed as the capital.

(742.) VANCOUVER ISLAND lies on the coast of the Pacific, between the parallels of 48° and 51° N., and is separated from the mainland by a narrow channel called the Gulf of Georgia. The northern entrance to this channel is called Queen Charlotte Sound; its southern entrance forms the Strait of Juan de Fuca. The boundary-line between the British territory and that of the United States passes through the southern part of the Gulf of Georgia and the Strait of Juan de Fuca.

Vancouver Island is 290 miles in length, with an average width of about fifty miles, and embraces an area of not less than 14,000 square miles. The interior is hilly, and rises into high mountains towards the northern portion of the island. The coasts contain numerous good harbours, and water is plentiful in the interior. The climate is milder than that of England, and appears to be healthy and pleasant.

Coal of good quality is found in Vancouver Island, and is worked by the settlers. Specimens of fine lead have been found, and limestone is plentiful. There is abundance of fine timber. The soil, in so far as cultivation has hitherto extended, has been found favourable to the growth of wheat. Potatoes thrive, and are cultivated by the Indian population as a common article of food. Fish are plentiful, both in the fresh-water streams and in the neighbouring seas.

Vancouver Island was formed into a colony in 1849. The town of *Victoria*, situated near the southern extremity of the island, is its capital, and serves as the temporary seat of government for the neighbouring colony of British Columbia. The native Indian population of the island does not exceed 10,000.

(743.) The RUSSIAN TERRITORY in America comprehends the north-western corner of the continent, with several adjacent islands, both on the coast of the Pacific Ocean, and within the area of Behring Sea. The superficial extent of this territory is probably upwards of 400,000 square miles.

Those parts of the coast of Russian America which border on Behring Sea and the Pacific are high and rocky, with bold and steep promontories. But the Arctic coasts, to the north and east of Behring Strait, and thence nearly to the mouth of the Mackenzie, are low, flat, and often swampy. Several rivers discharge themselves into the sea along the latter tract;

one of them, named (by its English discoverers) the Colville, is two miles wide at its mouth, and freshens the water for a considerable distance.

A large river, called the Yukon (or Kwichpack), which rises upon the western side of the Rocky Mountains to the northward of the parallel of 60° , flows through Russian America in a westerly direction, and enters Behring's Sea in the neighbourhood of Norton Sound.

The seal-fishery, and the capture of the various fur-bearing animals, are prosecuted by the Russians along the coasts and upon the adjoining islands. The native tribes sell or barter their furs to the Russian traders at a few forts which the latter have erected at various points along the coast. The principal of the Russian stations is *New Arkhangel* (in lat. $57^{\circ} 3'$), on Sitka Bay, upon the w. shore of Baronov Island, which has about 1000 inhabitants, and contains the warehouses of the Russian Fur Company. *Michaëlovski*, upon Norton Sound, is another of the Russian trading ports. The teeth and bones of the mammoth are found upon the coasts of Russian America (like the similar fossil remains upon the Siberian coasts), though none have been discovered to the eastward of the Rocky Mountains.

SECTION II. — THE UNITED STATES.

(744.) *Boundaries and Extent.*—The UNITED STATES of North America embrace an immense territory, which stretches across the entire breadth of the continent, from the shores of the Atlantic to those of the Pacific Ocean; and from the 49th parallel and the basin of the great lakes on the north, to the Gulf of Mexico and the Rio del Norte on the south.

Upon the north this territory is bounded by the provinces of British America; on the east by the Atlantic Ocean; on the south by the Gulf of Mexico, and the States of the Mexican Confederation; and on the west by the Pacific. From east to west it measures (along the line of the 40th parallel) upwards of two thousand six hundred miles, and from north to south its average width exceeds eleven hundred miles.

This vast region comprises an area of more than three millions of square miles, over at least nine-tenths of which a white population is now distributed. The older-settled States are situated in the eastern half of the territory, along the Atlantic coast. The western States occupy the valley of the Mississippi. One of the States — California — is on the shores of the Pacific.

The entire number of States comprised within the Union is thirty-two. Besides these States, there are eight territorial governments, which are

not yet sufficiently populated to be admitted as members of the Union. The names of the States, with the area and population of each (according to the census of 1850), are as follow :—

	Square miles.	Population.	No. of inhab. to sq. miles.
NORTH-EASTERN.			
Maine - - - - -	32,828	583,000	18
New Hampshire - - - - -	9,411	318,000	33
Vermont - - - - -	10,212	314,000	30
Massachusetts - - - - -	7,500	995,000	132
Rhode Island - - - - -	1,340	147,000	109
Connecticut - - - - -	4,764	371,000	78
MIDDLE.			
New York - - - - -	46,085	3,098,000	67
New Jersey - - - - -	8,320	489,000	58
Pennsylvania - - - - -	44,000	2,312,000	52
Delaware - - - - -	2,120	91,000	43
Maryland - - - - -	13,969	583,000	41
District of Columbia - - - - -	63	52,000	825
SOUTHERN.			
Virginia - - - - -	64,000	1,421,000	22
North Carolina - - - - -	43,800	868,000	19
South Carolina - - - - -	28,200	668,000	23
Georgia - - - - -	62,000	906,000	14
Florida - - - - -	53,786	87,000	1-6
NORTH-WESTERN.			
Ohio - - - - -	29,964	1,980,000	49
Indiana - - - - -	23,809	988,000	29
Illinois - - - - -	55,405	851,000	15
Michigan - - - - -	56,243	398,000	7
Wisconsin - - - - -	53,924	305,000	5-6
Kentucky - - - - -	40,500	982,000	24
Missouri - - - - -	67,380	682,000	10
Iowa - - - - -	50,914	192,000	3-7
Minnesota - - - - -	75,000	150,000	2
SOUTH-WESTERN.			
Tennessee - - - - -	45,000	1,003,000	22
Alabama - - - - -	50,722	772,000	15
Mississippi - - - - -	47,151	606,000	13
Louisiana - - - - -	46,431	518,000	11
Arkansas - - - - -	52,198	210,000	4
Texas - - - - -	237,321	213,000	0-9
California - - - - -	188,981	200,000	1
New Mexico Territory - - - - -	210,744	61,000	0-28
Utah Territory - - - - -	187,923	38,000	0-20
Oregon Territory - - - - -	175,000	13,000	0-07
Washington Territory - - - - -	110,000	10,000	
Nebraska Territory - - - - -	335,000	10,700	
Kansas Territory - - - - -	120,000	80,000	
Dacotah Territory - - - - -			
Arizona Territory - - - - -			

(745.) *Natural features, Climate, &c.* — The eastern di-

vision of the United States embraces nearly the entire system of the Apalachian Mountains, with the plain extending along the Atlantic coast (Arts. 701 and 705).

The central portion of the territory includes the extensive valley of the Mississippi, which forms the southern half of the greater interior plain (Art. 704). This valley extends to the base of the Rocky Mountains, and includes within its limits the region of the Ozark Mountains.

The most westerly portion of the United States embraces the country between the Rocky Mountains and the Pacific. This region has been described under the names of the Great Basin and the Highlands of Oregon (Art. 700): it terminates towards the sea in the high mountain-chains which stretch along the west coast of the continent.

The numerous rivers, and the great lakes, of this portion of America have been described in Arts. 706 and 712.

A region which extends from the parallel of 25° (within little more than a degree of the torrid zone) to that of 49° , necessarily includes many varieties of climate, and exhibits great diversities of temperature. The southern States are much hotter than the northern, and approximate in every respect to the characteristics of tropical regions.

The distinguishing feature in the climate of the United States (in so far as regards those portions of the territory which lie to the eastward of the Rocky Mountains, and especially the tracts along the Atlantic coast) is the great range of the thermometer, or the frequent and rapid changes of temperature. The summers are hotter, and the winters colder, than in the portions of Europe which lie under the same parallels; and at Boston, Philadelphia, and other places in the eastern division of the Union, the variations of temperature not unfrequently exceed 25° or 30° within a single day. But the sky is almost uniformly clear, and the atmosphere generally dry, transparent, and invigorating.

The low alluvial country, both along the Atlantic and the Gulf of Mexico, is unhealthy, and liable to intermittent fevers. The inundated tracts along the great rivers of the interior are of similar character. But with these exceptions, the climate of the United States is generally salubrious, and apparently not less favourable to longevity than that of the greater portion of Europe.

The natural productions of the United States include nearly all the plants and animals mentioned as belonging to the northern half of the New World (Arts. 717 and 718). The mineralogy is rich and varied: besides the gold of California, the mineral productions of the Union include iron, lead, and coal—all in great abundance—together with rock-salt, gypsum, and several metals and minerals of less general distribution. Mineral springs occur in many of the States, and are particularly numerous in Virginia, where they are situated in the hilly district lying between the ridges of the Apalachian system. There are also several brine springs in the same State.

(746.) *Inhabitants.*— The population of the United States amounted in 1850 to 23,347,000, and is increasing with extraordinary rapidity. Within half a century the number has been more than quadrupled. This amazing increase is in part owing to the continual influx of emigrants from all parts of Europe, and especially from the British Islands.

The distribution of the population is shown in the Table already given. The eastern and older-settled portions of the Union are at present most populous, but the States lying within the valley of the Mississippi (and especially those situated to the north-westward) are advancing in this respect in a much more rapid ratio.

The following Table shows the number and classes of the population of the Union at successive periods of ten years, from the beginning to the middle of the present century :

Year.	Whites.	Blacks.		Total.
		Free.	Slave.	
1800	4,300,000	108,000	890,000	5,300,000
1810	5,800,000	186,000	1,190,000	7,200,000
1820	7,800,000	238,000	1,500,000	9,600,000
1830	10,500,000	319,000	2,000,000	12,800,000
1840	14,100,000	386,000	2,500,000	17,000,000
1850	19,600,000	427,000	3,200,000	23,300,000

The population of the United States embraces members of three of the great divisions of the human race. The whites, who constitute six-sevenths of the total number, are principally of English and Irish descent ; there are also, in particular parts of the Union, representatives of nearly every nation in Europe—especially of the Germans, the Dutch, and the French. The Germans have settled most numerous in the western parts of New York, in Pennsylvania, Maryland, Virginia, and North Carolina, and more indiscriminately in the western States. The descendants of the early Dutch colonists are found principally in the states of New York and New Jersey. The French, or their descendants, are most numerous in Louisiana, Missouri, and along the western margin of the Mississippi. There are a few people of Spanish descent in Louisiana and Florida.

In general the Americans are tall, partly from the climate, and from their pursuits, which, whether of pleasure or business, are mostly carried on in the open air ; they are strong, from a plentiful and nourishing diet ; and they have sallow complexions, from the heat and dryness of their atmosphere. Indeed, the only striking visible changes which the European race has undergone in America are, a greater elongation of person, with less breadth and a sallower skin.

There are many local modifications of the national character. Thus

the New Englanders are distinguished for hardy enterprise—for mechanical ingenuity—for commercial astuteness. In the slave-holding States, whether middle, southern, or western, the natives are often indolent, improvident, and proud, but are also hospitable, sanguine, frank, and unsuspecting.

The Negro portion of the population is most numerous in the southern and south-western States, in which slavery exists as a recognised institution. Fifteen of the States which compose the Union are slave-holding states: these are, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Texas, Arkansas, Missouri, Tennessee, and Kentucky. The total slave population amounted, in 1850, to 3,178,000, but their ratio of increase is less rapid than that of the white inhabitants. In many of the slave States the negroes constitute from a third part to a half of the entire population. The slave-trade has been abolished, so that the increase of the negro population is maintained by natural means. In some of the States of the Union (chiefly in the north-east, or New England States), there is a free black population, but its number is not considerable.

The Indian portion of the population is much reduced in amount since the original occupation of this continent by the white race. All the aboriginal tribes within the territories of the Union amount to little more than 400,000 souls. These are chiefly located to the westward of the Mississippi, in the more recently-constituted states and territories, and in the yet unsettled lands in the neighbourhood of the Rocky Mountains.

(747.) *Industrial Pursuits.*—Agriculture engages by far the greater portion of the labour of this country. Its immense extent and generally scanty population, with the natural fertility of the soil, and the facility presented for removing to the more distant regions of the interior as the older-settled tracts have become (by the frequent repetition of the same crops) partially exhausted, have combined to encourage and develop this pursuit.

Cotton, tobacco, rice, maize, wheat and other grains, with sugar, flax, hemp, and various articles of raw produce, are the chief wealth of the United States. All of these are exported in great quantities, especially cotton, which is supplied to Great Britain to an immense amount (Art. 129).

The cotton-plant is cultivated chiefly in the southern half of the Union, especially in South Carolina, Georgia, and the adjacent States. It is not grown for market further north than the State of Virginia on the Atlantic coast, and that of Tennessee in the valley of the Mississippi.

Tobacco is grown chiefly in Maryland, Virginia, North Carolina, and the States further to the south and west. The cultivation of the sugarcane is principally pursued in Louisiana, Florida, Georgia, and the intervening tracts along the shores of the Gulf of Mexico.

Maize, or Indian corn, of several varieties, is produced in all the States and thrives on nearly every kind of soil; it forms one of the most general articles of consumption throughout the Union. Wheat is a great staple of the middle and north-western States, but is little cultivated for market north of New York, or south of Virginia. Rice is grown principally in South Carolina, Georgia, Louisiana, Florida, and the southern part of North Carolina. Flax and hemp thrive particularly in the rich soil of Kentucky, and are cultivated in all the States situated to the westward of the Apalachian Mountains.

The cotton, tobacco, rice, and sugar, of the United States are produced exclusively by slave labour

Horses and mules are reared for exportation in Kentucky, Ohio, Connecticut, and other parts of New England. Cattle, butter, and cheese, for the foreign market, are produced in the New England States and in New York. Pickled pork and beef are furnished by all the northern States.

In the States lying within the northern half of the Mississippi valley, hogs are very numerously reared—chiefly for the sake of their lard, the solid portion of which supplies *stearine*, a substance used for making candles, while the liquid portion furnishes a very pure and valuable oil. This lard-oil is extensively exported to the British Colonies in Australia, where it is an article of general consumption. The hogs are fattened chiefly upon maize.

The processes of agriculture are conducted in the United States upon a scale of great magnitude, and the reaping machines and numerous implements of farming which have been brought into successful use are evidence of the large and enlightened attention that is directed to this branch of the national industry. The spontaneous productions of the earth also constitute a material source of wealth. The native forests, besides timber, planks, staves, hoops, masts, and spars, furnish pot and pearl-ashes, tar, pitch, and turpentine.

(748.) The manufactures of the United States are extensive, and are rapidly progressing. Although at present vastly inferior in amount to those of our own country and other European states, yet they are steadily increasing at a rate which promises to make them rival, at no distant time, those of any country on the globe. In their abundant supply of coal and iron, with their extensive water-power, and the ready means of communication afforded by the same agency, the United States possess all the raw materials requisite for the development of manufacturing industry.

Iron, cotton, and woollen goods, are the three great staples of manufacture in the United States; next in importance to these are linens, with hardware, glass and paper, cabinet-ware, leather, and numerous minor articles. The States to the north-eastward of Virginia, with that of Ohio in a more westerly direction, contain the principal seats of manufacture. The westerly division of Pennsylvania, with the neighbouring parts of Ohio and Virginia—situated within the great coal-field of the Alleghany Mountains—are especially distinguished for their numerous iron-works.

(749.) The commerce of the United States has attained an amazing magnitude, and the foreign trade of the Union is second in amount only to that of Britain. The American flag is seen in every part of the globe, and the productions of the most distant nations are exchanged by means of the merchant vessels of this nation.

The States which border on the Atlantic coast, especially those situated far to the north-eastward, are the most commercial; and the seafaring habits of their population have been encouraged by the numerous navigable rivers and estuaries which this range of coast contains. Massachusetts, in particular (one of the New England States), owns more than a fourth part of the entire tonnage of the Union.

The imports of the United States consist principally of manufactured

goods (chiefly of the finer kinds, and a large proportion of them supplied by Great Britain); with sugar, molasses, coffee, and other tropical produce; besides tea, hides, wines, spirits, dried fruits, and an immense variety of minor articles, including watches, books and prints, and many others.

The exports are principally raw produce, and embrace cotton, flour, maize, tobacco, rice, lumber of every kind, beef and pork, dried fish, whale and other fish-oil, tar, pitch, and turpentine, horses and cattle, skins and furs, and bullion (chiefly gold), besides a few manufactured commodities. Of these items, cotton is by far the largest in amount, and forms nearly a third part of their total value (Art. 129).

The various articles of export may be arranged under four heads, — 1st, the produce of agriculture, which constitutes more than three-fourths of the entire value, — 2nd, the forest produce, which amounts to about a twentieth part, — 3rd, the fisheries, which represent about a forty-eighth part, — and 4th, the different manufactures, which make up the remaining portion, that is, about a tenth of the whole.

The foreign trade of the United States is mostly carried on in schooners, of moderate tonnage. Similar vessels, together with fast-sailing sloops and other small craft, besides steamers, are also occupied in a very extensive coasting trade. The river-navigation of the interior is partly carried on in steamers (of which there are a large number plying on the various lakes and rivers), and partly in flat-bottomed boats, which commonly make but a single voyage down the rivers, at the end of which they are sold and broken up for the sake of their materials. There is also an extensive overland trade between the more eastward States and those lying in the valley of the Mississippi; this is chiefly in cattle, hogs, and other live stock, which are annually driven from the interior to the ports on the Atlantic coast.

Both railways and canals have been extensively constructed; most of the towns situated on the principal lakes and rivers of the interior are connected by these means, and many of them brought into direct communication with the principal Atlantic ports. The length of railways open for traffic exceeds 20,000 miles, and the canal and river navigation is on a still more extensive scale. Nearly 18,000 miles of electric telegraph were in operation in 1854.

(750.) *National Divisions.* — Sixteen of the States lie along, or adjacent to, the line of the Atlantic coast, and are situated principally within the drainage of rivers which flow directly into the Atlantic. These embrace the more eastern, or older-settled, portions of the Union, and are divided (with reference to their position along the coast) into the north-eastern, middle, and southern States. The north-eastern States are also included under the general name of New England.

The remaining States (with the exception of California) lie principally within the basin of the Mississippi, and are for the most part situated to the westward of the Apalachian

Mountains. These are divided into the north-western and south-western States.

One of the States—California—lies upon the coast of the Pacific, as also do the Oregon and Washington territories, further to the northward. These, as well as the Territory of Utah, or Deseret, are to the westward of the Rocky Mountains. The Territory of New Mexico embraces the upper valley of the Rio del Norte. The Territory of Dacotah adjoins the State of Minnesota, and is immediately to the eastward of the Upper Missouri. The Nebraska and Kansas Territories are to the west of the Missouri river. The Arizona Territory adjoins the Mexican frontier.

(751.) The principal towns in the different States of the Union are enumerated in the following lists, with their population according to the census of 1850. The place at which the legislature of each State holds its sittings is distinguished by italics: this nominally ranks as the capital of the State, but rarely coincides with the town of largest size, or of most importance in other respects.

SIX NORTH-EASTERN, OR NEW ENGLAND, STATES.

Name of State.	Chief Towns, with Population.
Maine - - - -	Portland, 27,000 — Bangor, 14,000 — <i>Augusta</i> , 9000.
New Hampshire - -	Portsmouth, 19,000 — <i>Concord</i> , 8000.
Vermont - - - -	Burlington, 5600 — <i>Montpelier</i> , 4000.
Massachusetts - -	Boston, 128,000 — Lowell, 33,000 — Springfield, 31,000 — Salem, 18,000 — Lawrence, 18,000 — New Bedford, 16,000 — Lynn, 16,000 — Worcester, 15,000 — Cambridge, 14,000.
Rhode Island - - -	<i>Providence</i> , 41,000 — <i>Newport</i> , 9000.
Connecticut - - -	<i>New Haven</i> , 22,000 — <i>Hartford</i> , 18,000 — New London, 9000.

FIVE MIDDLE STATES.

New York - - - - N:	— <i>Albany</i> , 52,000 — Williamsburg, 30,000 — 17,000.
New Jersey - - - N:	— New Brunswick,
Pennsylvania - - - P:	— Reading, 15,000 —
Delaware - - - - W:	<i>Doer.</i>
Maryland - - - - B:	— <i>Annapolis</i> , 4000.
District of Columbia B	

FIVE SOUTHERN STATES.

Virginia - - - -	Richmond, 27,000 — Petersburg, 14,000 — Norfolk, 14,000 — Alexandria, 8000 — Wheeling.
North Carolina - -	Wilmington, 11,000 — Newbern, 6700 — <i>Raleigh</i> , 3000.
South Carolina - -	Charleston, 42,000 — <i>Columbia</i> , 6000.
Georgia - - - -	Savannah, 27,000 — <i>Augusta</i> 2800 — <i>Milledgeville</i> .
Florida - - - -	St. Augustine, 2900 — Tallahassee — Pensacola, 2000.

NINE NORTH-WESTERN STATES.

Missouri - - - -	St. Louis, 97,000 — <i>Jefferson City</i> , 3700.
Kentucky - - - -	Louisville, 42,000 — Covington, 9000 — Lexington, 7500 — <i>Frankfort</i> , 4000.
Ohio - - - -	Cincinnati, 116,000 — Columbus, 17,000 — Cleveland, 19,000 — Zanesville, 10,000 — Sandusky, 7900 — Steubenville, 6000.

Name of State.	Chief Towns, with Population.
Indiana - - - -	New Albany, 9000 — Madison, 8000 — <i>Indianapolis</i> , 8000.
Illinois - - - -	Chicago (in 1854), 75,000 — <i>Springfield</i> .
Michigan - - - -	Detroit, 21,000 — <i>Lansing</i> .
Wisconsin - - - -	Milwaukee, 20,000 — Racine, 5000 — <i>Madison</i> , 1800.
Iowa - - - -	Burlington, 5000 — Dubuque, 3700 — <i>Jowa City</i> , 2000.
Minnesota - - - -	<i>St. Paul</i> — <i>St. Anthony</i> — <i>Pembina</i> .

SIX SOUTH-WESTERN STATES.

Tennessee - - - -	<i>Nashville</i> , 17,000 — Knoxville, 4600.
Alabama - - - -	Mobile, 20,000 — <i>Montgomery</i> .
Mississippi - - - -	Natches, 8000 — Columbus, 9000 — <i>Vicksburg</i> , 4000 — <i>Jackson</i> .
Louisiana - - - -	New Orleans, 119,000 — <i>Baton Rouge</i> , 4000.
Arkansas - - - -	<i>Little Rock</i> , 4000.
Texas - - - -	Galveston, 6000 — <i>Austin</i> , 4900.

California - - - -	San Francisco, 30,000 — Sacramento City, 15,000 — <i>Bancks</i> — <i>Monterey</i> .
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EIGHT TERRITORIES.

New Mexico - - - -	<i>Santa Fé</i> , 7000.
Utah - - - -	<i>Salt Lake City</i> , 12,000.
Oregon - - - -	<i>Salem</i> — Oregon City.
Washington - - - -	<i>Olympia</i> .
Nebraska - - - -	
Kansas - - - -	
Dacotah - - - -	
Arizona - - - -	

(752.) The city of *Washington*, the political capital of the United States, stands on the north bank of the river Potomac, within the District of Columbia (a tract set apart for the purposes of the Federal government), upon the borders of Maryland and Virginia. *Washington* has neither trade nor manufactures, and possesses no importance but that derived from its being the seat of the general government of the Union.

Washington contains the official residence of the President, and has several fine public buildings, chief amongst them the Capitol, in which the Houses of Legislature assemble ; but the city was originally planned upon a scale of magnitude far beyond that which it has ever attained, and wears consequently an unfinished aspect. *George Town*, immediately above *Washington*, and *Alexandria*, seven miles lower down the river (upon its s. bank), are places of some trade.

(753.) *Boston*, upon the eastern coast of Massachusetts, is the principal city in the New England States, and one of the most flourishing seats of trade in the Union. The older portion of the city is built upon an advancing promontory of land, united to the mainland by a narrow isthmus, but there are extensive suburbs, with which it is connected by long causeways built across the intervening arms of the sea. The harbour is one of the best in the United States.

Boston is altogether a beautiful city, and has numerous fine public buildings. It possesses several literary institutions, and the general tone of its society is more refined and intellectual than that of any other city in America: it may, indeed, be regarded as the literary capital of the Western World. *Cambridge*, four miles distant from *Boston*, is the seat of Harvard University, one of the most flourishing in the Union.

Lowell, about thirty miles to the north-westward of *Boston*, is the chief seat of the cotton manufactures of America. It stands on the left bank

of the river Merrimac, which supplies the power that is used in working its numerous mills.

Portland (in the State of Maine),—*Providence* (at the mouth of a river of the same name, in the State of Rhode Island),—and *Newhaven* (on the coast of Connecticut), are flourishing sea-port towns, and great seats of trade. *Hartford*, on the right bank of the Connecticut River, contains several important public institutions.

(754.) *New York*, the largest city in the New World, and, in wealth and general importance, the metropolis of the United States—stands at the mouth of the river Hudson, and at the head of a fine bay formed by the coasts of the mainland and the adjacent shores of Long Island. The estuary which divides Long Island from the mainland is called the East River; the city occupies the tongue of land between this channel and that of the Hudson, extending for several miles along the course of each. *Brooklyn*, situated upon Long Island, lies immediately opposite to New York, and forms, in fact, a suburb to that city—almost constant communication between the two places being maintained by steamers which cross the intervening channel of the East River.

New York is one of the most important commercial cities in the world, and is probably only inferior to London in the total amount of its trade. It is in most respects a beautiful and well-built city, though containing (like all large capitals) particular quarters which strikingly contrast with the wealth and substantial character of its general aspect. The principal street, called Broadway, stretches through the city for a length of three miles, in a direction nearly parallel to the banks of the Hudson, and rivals the great thoroughfares of the British metropolis in the active and bustling traffic of which it is the scene.

Albany, 140 miles above New York, stands on the right bank of the Hudson, and commands considerable canal and river navigation: ten miles higher up, on the opposite bank of the river, is *Troy*, at the head of the sloop-navigation. Between Albany and New York the Hudson flows through a beautiful valley, and passes (upon its western side) the romantic district of the Catskill Mountains.—*Buffalo*, at the foot of Lake Erie (where the Niagara River flows out of the lake), is a flourishing commercial town, and has risen into importance with extraordinary rapidity.

(755.) *Philadelphia*, the second city in the States in population and amount of trade, occupies a tract of land between the rivers Delaware and Schuylkill, immediately above their junction. It is built on a perfectly regular plan, the streets being all straight, intersecting at right angles, and at equal distances from one another. Philadelphia is a handsome city, and contains a greater number of striking edifices than any other place in the Union. It is the principal seat of the Quaker population of the United States.

Pittsburg, in the western part of the State of Pennsylvania, stands at the confluence of two streams which unite to form the river Ohio, and is within the basin of the Mississippi. It is situated in the midst of valuable coal-mines, and has manufactures of every description of iron-mongery and hardware (including steam-engines and various kinds of machinery). Pittsburg constitutes, in fact, the "Birmingham" of America. *Wheeling* (in Virginia) shares in this description of industry, and has besides extensive glass-works.

Baltimore, the third city of the United States in population, stands on the west side of the estuary of Chesapeake Bay, at the head of an inlet called the Patapsco river. It has a very extensive commerce, and is the greatest tobacco and flour market in the Union.

Richmond, the chief city in Virginia, on the north bank of James River, is a flourishing seat of trade. But the chief seat of the export trade of the southern States is *Charleston*, at the head of an estuary on the coast of South Carolina. Cotton and rice are exported hence to a large amount.—*Savannah* (in Georgia), seventeen miles above the mouth of the Savannah River, has also considerable commerce.

(756.) The great emporium of commerce in the western States of the Union is *New Orleans*, situated on the n. bank of the Mississippi, near its mouth. It is built in a low and swampy situation, and in the season of inundation the river rises above the level of the streets; during the autumnal months it is exceedingly unhealthy. But the importance of its position for commercial purposes causes it to flourish, notwithstanding these disadvantages.

New Orleans is the outlet for the produce of the Mississippi valley, and the amount of its exports is greater than that of any other city in the Union, excepting New York.

The town of *Mobile*, to the eastward of New Orleans (in the State of Alabama), is also an important seat of foreign commerce. It stands at the head of a fine bay, which receives the waters of the river Mobile.

Galveston, in Texas, is situated on an island, upon the coast of the Gulf of Mexico, and in an unhealthy locality. *Austin*, the capital of the State, is on the north bank of a river called the Colorado, which falls into the Gulf.

(757.) *Cincinnati*, on the north bank of the river Ohio (in the State of that name), is the largest inland town in the western States, and carries on an immense traffic by means of the river, as well as by canal and railway communication. *Chicago*, upon the south-western shore of Lake Michigan, commands a great transit-trade, and has rapidly grown into a large and populous city.

St. Louis, upon the west bank of the Mississippi (about 20 miles below the mouth of the Missouri river), is the emporium of traffic for the more western States of the Mississippi valley. The furs, lumber, and other produce of the interior, are collected here, and transmitted to New Orleans.

Most of the other towns in the western States are of small size, but many of them are fast increasing in population and importance. In this region, indeed, new towns and villages spring into existence with extraordinary rapidity, and tracts of country which have been but freshly reclaimed from the wilderness acquire within a few years a cultivated aspect, are intersected by roads, and covered with an active and industrious population.

(758.) *California*, the most western State of the Union, has acquired celebrity from the extraordinary richness of its gold mines,—only discovered in 1848—which have drawn thither emigrants from every part of the globe. The gold, obtained principally by washing the soil, lies in the valleys of the River Sacramento and its tributaries, at the western foot of the Sierra Nevada. Quicksilver and other metals are also worked in California. The town of *San Francisco*, at the en-

trance of a fine bay into which the Sacramento falls, has increased with wonderful rapidity, and many other towns have sprung up—as by magic—in a region which but a few years since was almost an uninhabited wilderness.

(759.) The United States constitute a federal republic. Each of the thirty-one States of which the Union is composed has a separate government of its own, and the whole are united in a general government, the form of which is a representative democracy.

The executive power is vested in a President, who is chosen (by means of electoral colleges, which represent the votes of the people at large) for a period of four years, but is eligible for re-election. The legislative functions belong to a body styled the Congress, which consists of two houses of assembly—a Chamber of Representatives and a Senate. The Chamber of Representatives consists of 233 members, who are apportioned among the different States in proportion to the population of each (deducting two-thirds of the slaves in the estimate). A new apportionment of the number of members to each State is made on the occasion of each census (at periods of ten years). The Senate consists of two members from each State, who are chosen by its local legislature. The members of the Chamber of Representatives are chosen every two years; of the Senate, one-third part go out every second year, so that each member holds his seat for six years. In both cases, the members are eligible for re-election.

The judicial power is confided to a supreme court, with such inferior tribunals as Congress may from time to time establish. The judges are appointed by the Senate, on the nomination of the President.

The office of the general government is to regulate such affairs as concern the interests of the entire Union, as the relations with foreign States, the protection of commerce, and similar matters. But the internal government of each State, involving its code of laws, its punishments for offences,—in fact, its general system of jurisprudence,—together with the regulation of all merely local interests, the making of roads, canals, and similar works,—is left in the charge of its own legislature.

The governments of the different States, with many differences in their laws and written constitutions, have most of their great features in common, and are modelled upon the same form as the general government. Each of them has its own local legislature, which in all the States, with the exception of Vermont, consists of two branches—one called the Senate, and the other a more numerous body of Representatives. In each of them, the executive power is vested in a Governor, who is chosen by the people in most of the States, though in a few of them by the legislature. In all the States, the legislative, executive, and judicial powers, are separate and distinct.

The right of suffrage belongs to all white adults (subject to certain restrictions as to length of residence); but is everywhere denied to the slave, as well as to the Indian portion of the population. The blacks are throughout regarded as an inferior race, and even in those States in which their freedom is recognised they are debarred from the exercise of many political privileges, and are not allowed to associate upon anything approaching to terms of equality with the white population. This prejudice against colour is universally entertained in the United States.

and painfully attracts the notice of every impartial observer of their social usages.

(760.) There is no established Church in the United States ; the Christian religion is universally followed, in various forms of worship — the churches and clergy of each sect being supported by the voluntary contributions of their members. The variety of sects is very great : those which have the largest number of followers are the Presbyterians, Methodists, Baptists, Protestant Episcopalians, Lutherans, and Roman Catholics.

The Presbyterians are the prevailing sect throughout the New England States, with New York, New Jersey, Pennsylvania, and the western parts of Maryland and Virginia. The Methodists are more generally diffused throughout the Union than any other sect ; they are most numerous in the Middle States, and least so in New England and Louisiana. The Baptists predominate in Rhode Island, Virginia, Kentucky, and most of the States further south. The Roman Catholics are numerous in the cities of the Middle States, and also in Louisiana and many of the Western States. The Episcopalians have congregations in all the States, and are most numerous in Connecticut, the Middle States, and some of the southern Atlantic States. The Quakers are numerous in Pennsylvania, and have congregations in many other States. The Mormons (or Latter-day Saints) are settled on the banks of the Great Salt Lake, within the territory of Utah, or Desert.

In most of the States, popular education receives a large share of attention, and in many of them (especially in the New England States, and in New York,) a high standard of general attainment is realised in this regard—more so, perhaps, than in any other country excepting Prussia, and some parts of Germany and Switzerland. Free elementary or primary schools are widely distributed ; high schools, gymnasiums, and colleges, are also numerous. These institutions are supported out of the funds of the State.

The higher branches of learning are also assiduously cultivated, and there are a great number of colleges and universities for the pursuit of general literature, as well as medical, theological, and legal schools.

The standing army maintained by the United States is extremely small, not embracing more than 10,000 men (a less number than that supported by many of the third-rate powers of Europe). There is, however, a numerous militia, liable to be called into action, should occasion require. The navy is of more importance, and its strength has of late years been increased by the use of steam ships. The mercantile marine is of immense extent, and is inferior only to that of Britain in number and tonnage of vessels.

The United States consisted originally of only thirteen provinces, all of which had been colonies of Great Britain, but declared their independence in the year 1776, and formed themselves into a federal government. The States embraced within the original Union were Massachusetts, New Hampshire, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, North and South Carolina, and Georgia. The other members of the Union have been added to it at various subsequent periods, the two latest acquisitions having been the States of California and Texas,—the former in 1848 and the latter three years previously.

SECTION III. — MEXICO.

(761.) *Boundaries and Extent.*—Mexico occupies all the northern and broader portion of the isthmus which extends between the Pacific and Atlantic Oceans. On the north it is bounded by the territory of the United States, on the east by the Gulf of Mexico, on the south by the States of Central America and the Pacific Ocean, and on the west by the Pacific. The area which it embraces is about 800,000 square miles.

The narrowest portion of the Mexican territory is at the Isthmus of Tehuantepec, which is 140 miles across (Art. 697); in its northern and broader portion it measures from five to six hundred miles between the opposite seas.

The natural features of this portion of America have been described in Art. 703. The climate of the interior plateau differs materially from that of the low plains which stretch along the coast. In regard to temperature, the whole country is divided into the *tierras calientes*, or hot regions,—the *tierras templadas*, or regions of moderate heat,—and the *tierras frias*, or cold regions. The first embraces the low coasts and adjacent land, up to an elevation of 2000 feet, within which limits unhealthy exhalations and fevers prevail. The second region includes the slopes of the mountains, and the tracts which are between 2000 and 5000 feet in elevation, within which a healthier atmosphere is experienced; and the third comprehends the summit of the plateau, and all districts which lie at a greater altitude than 5000 feet above the sea. The last region is that of greatest extent, and enjoys a temperature which varies but little throughout the year, and in which the extremes either of heat or cold are unknown.

(762.) *Inhabitants.*—The population of Mexico amounts to about seven and a half millions. More than half of the number are Mexican Indians: the remainder are divided between the Creoles, or people descended from European parents (almost wholly Spanish); and the Mestizos, or mixed races. The Indians form the great mass of the labouring population; many of them are engaged in agriculture, but they are averse to the exercise of the mechanical arts. Some of them, however, are employed in the mines and in the occupation of pearl-divers. The mixed races are more generally engaged in trade and mechanical pursuits, and many of them are employed as servants to the white population.

The Creoles, or descendants of the early Spanish colonists, are the dominant race, and constitute the wealthiest and most powerful portion of the population; but, so far as political privileges are concerned, the dis-

inctions of colour have been abolished in Mexico, and all classes are admitted to an equal enjoyment of civil rights.

(763.) *Industrial pursuits.*—Every branch of these is in the lowest possible condition, and the natural wealth of this fine country is almost entirely neglected. The productions of Mexico are gold, silver, cochineal, hides, and Indian corn, besides a vast variety of fruits and other plants.

The mines were formerly very productive, and immense quantities both of gold and silver have been drawn from them : but this source of wealth has been in a great measure exhausted. Besides the precious metals, copper, tin, iron, lead, and other ores, are found on the table-lands, but the extent to which they are worked is exceedingly limited.

Agriculture is greatly neglected, but the natural fertility of the soil causes it to yield a considerable amount of produce. Maize is grown in every part of the country,—wheat, potatoes, and European vegetables in general, only on the summits of the table-lands, or in tracts elevated upwards of three thousand feet above the sea. The *maguey* plant (from which a juicy beverage is obtained) is extensively cultivated on the higher portions of the table-land. The sugar-cane is grown on the declivities of the table-land, and at heights of between five and seven thousand feet above the sea. The cotton-plant is cultivated chiefly along the plains of the coast, and the coarse kind of cloth made from it forms the chief dress of the Indian population. Coffee, cocoa, tobacco, and indigo, are all grown, though to a very limited extent. Vanilla is collected in the forests, and the jalapa is found growing on many of the higher plains. The plant upon which the cochineal-insect thrives has been already referred to (Art. 717) : the produce of this is considerable, and, next to the precious metals, cochineal is the most important article of export from Mexico.

Horned cattle are very numerous, and supply hides and tallow in considerable abundance ; horses and mules are also reared in great numbers, and are exported to the United States. Bees'-wax is extensively collected in some parts of Mexico. The silk-worm was formerly reared, but its produce is now almost entirely neglected.

In most parts of Mexico manufacturing industry is scarcely known. Soap is extensively made, and tallow is plentiful. Coarse articles of clothing, and a few gold and silver utensils and ornaments, are likewise made. The commerce is not considerable. The imports embrace quicksilver (for use in the mines), a variety of manufactured goods, with earthenware, fire-arms, hardware, and machinery : the exports consist of metals, cochineal, hides, cattle, and some medicinal herbs.

The principal seats of the foreign trade are Vera Cruz and Tampico on the Atlantic coast, and Acapulco on the Pacific side. Vera Cruz exports most of the agricultural, and Tampico most of the mineral produce.

The roads in Mexico are very defective, and scarcely any of them passable for carriages. Mules are everywhere used for the transport both of passengers and merchandise.

(764.) *Divisions, Towns, &c.*—Mexico embraces twenty-one distinct states, which are nominally united into a federal republic, like that of the United States. The names of

these, with the capital of each, are given below. The Federal district, which surrounds the city of Mexico, is distinct from the state of that name.

State.	Chief town.	State.	Chief town.
Federal District.	Mexico.	Puebla.	Puebla.
Chihuahua.	Chihuahua.	Queretaro.	Queretaro.
Chiapas.	San Christoval.	San Luis Potosi.	San Luis.
Cohahuila.	Saltillo.	Sonora.	Ures.
Durango.	Durango.	Sinaloa.	Cullacan.
Guanaxuato.	Guanaxuato.	Tabasco.	S. Juan Baptista.
Guerrero.	Tixtla.	Tamaulipas.	Victoria.
Mexico.	Toluca.	Vera Cruz.	Vera Cruz.
Michoacan.	Morella.	Xalisco.	Guadalaxara.
Nuevo Leon.	Monterey.	Yucatan.	Merida.
Oaxaca	Oaxaca.	Zacatecas.	Zacatecas.

The city of *Mexico*, the capital of the confederation, stands upon a plain that is 7450 feet above the sea. But the situation is low, relatively to the adjacent heights, and is rendered moist (and in some degree unhealthy) by the superabundant waters of four lakes which occupy great part of the plain. Mexico is a well-built city, with numerous churches and convents. The cathedral, a large and imposing edifice, stands on the site of the principal temple of the ancient Aztec empire. Mexico contains a university, an academy of sciences, and several public institutions, and has 170,000 inhabitants. The principal commerce of the country passes through this city.

Vera Cruz (9000 inhabitants), the principal port of Mexico, is situated on the shores of the Gulf of Mexico, in a marshy and unhealthy situation. Upon a small island opposite the town is the fortified castle of San Juan de Ulloa. Vera Cruz is only resorted to for commercial purposes, all the principal merchants residing in the neighbourhood of *Xalapa*, upon the sides of the table-land, at an altitude of 4340 feet above the sea. Xalapa lies on the road between Vera Cruz and the city of Mexico. *Tampico* also lies on the shores of the Mexican Gulf, further to the northward, and at the mouth of the small river Panuco: its site is unhealthy, but the amount of its commerce is increasing.

Acapulco (3000 inhabitants), on the coast of the Pacific, to the south-west of Mexico, possesses an excellent harbour, and was formerly a place of great trade, — the eastward emporium of the Spanish commerce with the Philippine Islands. But it has been repeatedly injured by earthquakes, and has greatly declined in importance. — *San Blas*, at the mouth of the Rio Santiago, on the coast to the northward, and *Mazatlan*, still further north, command some trade. — *Guaymas*, upon the eastern shore of the Gulf of California, has an increasing commerce.

Among the other principal towns of Mexico are *Guadalaxara* (on the river Santiago, to the north-west of Mexico), *Puebla* (to the south-eastward of the capital), *Guanaxuato*, *Valladolid* (or Morelia), *Queretaro*, *Zacatecas*, *San Luis Potosi*, *Saltillo*, and *Chihuahua*. — *Tlascala*, a small town to the eastward of Mexico, was built long before the arrival of Europeans in the New World, and its ancient walls are still standing.

(765.) Mexico contains numerous remains of ancient Indian architecture, some of which exhibit a high degree of skill and artistic taste. Among them are temples, fortifications, tombs, pyramids, bridges, and aqueducts; together with colossal statues, and other figures, many of them adorned with hieroglyphic inscriptions,—in fact, everything which indicates the former existence here of a people advanced in architectural skill, in the arts of sculpture and painting, and in the general accompaniments of civilised life.

Some of the most remarkable among these works of a former age are situated near the village of Palenque (in the State of Chiapas, towards the eastern extremity of the country). They were first discovered, by accident, in 1750, nearly concealed amongst the dense foliage of a tropical forest. Here, as also in numerous localities within Yucatan and the neighbouring provinces of Central America, terraced mounds of large extent—the remains of former palaces and temples—mark the site of an ancient and probably once populous city.

The ruined cities of Mexico and Central America bear many striking points of resemblance to the similar remains found in Western Asia, and excite in the beholder emotions akin to those awakened by the huge mounds that are strewn over the Assyrian plain. But there is no reason to suppose that they can claim a higher antiquity than the period which immediately preceded the Spanish conquests in the New World.

(766.) YUCATAN, a large peninsula, is situated to the eastward of Mexico. Upon the west and north it is washed by the waters of the Mexican Gulf, and on the east by the Gulf of Honduras; upon the south it is bounded by the province of British Honduras and the republic of Guatemala. Its superficial extent is about 70,000 square miles.

The interior of Yucatan is for the most part flat, sandy, and arid: hilly and watered tracts are of rare occurrence. The climate is hot, but not unhealthy. Among the forests, the timber known as campeachy-wood (or log-wood) is abundant. Agricultural produce is plentiful, wherever sufficient moisture exists, but the rains are often uncertain and irregular. Bees'-wax is collected in considerable quantity; rice, salt, and sugar, are also among the productions of this province.

Yucatan has about 700,000 inhabitants, chiefly whites, though there are among them numerous Indians. *Merida*, the capital, is situated towards the north-western corner of the peninsula: the small town of *Sisal* is its port, and has some export of agricultural produce. In the sea to the northward of Sisal is the dangerous group of rocks called the *Alacranes*. — *Campeachy*, on the west coast of the peninsula, exports the kind of wood known by its name, and also bees'-wax.

Yucatan has at various times within the last half century assumed the rank of an independent republic, but, on each occasion, has subsequently rejoined the Mexican confederation.

(767.) LOWER CALIFORNIA is attached to the Mexican Union as a dependent territory. It consists of the long and narrow peninsula to which the name of California was originally attached, and the surface of which is for the most part rocky and unproductive. The small towns of *Loreto* and *La Paz* are both situated on the eastern side of the peninsula.

The population of Lower California consists chiefly of native Indians, many of them converted and partially civilised by the missions of the Romish Church.

(768.) The political arrangements of Mexico are professedly based upon the same model as those of the United States. Each member of the Confederation has an internal government of its own, and the general interests of the country are confided to a Congress, consisting of a House of Representatives, a Senate, and a President. But the condition of the country is extremely unsettled, and all its institutions are in a very disorganised state. The Roman Catholic religion is the only one recognised by the government. The cultivation of science, literature, and the arts, has been completely checked by the political troubles under which the country has laboured.

The war with the United States, in 1847-8, stripped Mexico of the territory of Upper California, to which the extraordinary richness of its gold mines has since attracted so large a share of notice. Texas, which formerly belonged to the Mexican state of Cohahuila, had previously (in 1836) declared its independence, and was subsequently admitted into the North American Union.

SECTION IV.—CENTRAL AMERICA.

(769.) *Boundaries and Extent.*—Central America embraces the countries which stretch from the southern borders of Mexico to the Isthmus of Panama, or those portions of the continent lying between the 8th and 18th parallels of north latitude. This range of territory is bounded upon either side by the waters of the Caribbean Sea and the Pacific Ocean, and at its widest part is little more than 300 miles across, from sea to sea, while in general it is of much narrower dimensions.

Central America includes five distinct states—the republics of Guatemala, San Salvador, Honduras, Nicaragua, and Costa Rica,—besides the territory of Belize, or British Honduras, and the Mosquito coast. The whole area which it embraces is about 186,000 English square miles.

1. Guatemala is the largest of the States of Central America, and is little short of 53,000 square miles in area. It lies most to the westward, and extends from the borders of Mexico and Yucatan to the inner angle of the Gulf of Honduras, embracing an extensive range upon the coast of the Pacific.

2. San Salvador, a small territory of 6900 square miles, adjoins the eastern frontier of Guatemala, and stretches for about 150 miles along the Pacific, with a breadth of fifty miles inland.

3. Honduras also lies to the eastward of Guatemala: it

extends entirely across the isthmus, from the Bay of Conchagua on the Pacific, to the Gulf of Honduras on the Atlantic side, — the latter of which forms its principal seaboard. The State of Honduras includes about 43,700 square miles.

4. Nicaragua — above 36,000 square miles in area — is situated to the south-east of the last-mentioned State, and extends from the coast of the Pacific over more than half the breadth of the isthmus, between the parallels of 11° and 13° . It includes the greater part of the shores of Lake Nicaragua, and the course of the river San Juan forms a portion of its southern frontier.

Neither Honduras nor Nicaragua have any defined boundary to the eastward, on which side they adjoin the territory of Mosquito. This latter tract of country lies along the Caribbean Sea, from the mouth of the river San Juan northward to Cape Gracias à Dios, and thence to the westward as far as the meridian of $85^{\circ} 30'$ w.

5. Costa Rica, the most southerly of the States of Central America, extends from the river San Juan and the shores of Lake Nicaragua as far as the meridian of 82° , including a tract of country which gradually diminishes in breadth as it advances to the south-eastward. The narrow tract of the Panama Isthmus lies beyond the limits of this State, and is included within the republic of New Granada, in South America. Costa Rica includes an area of 21,000 square miles, and borders upon both of the great oceans.

(770.) *Natural features, Climate, &c.* — The natural features of this portion of America have been referred to in Art. 703. It is well watered, though few of the rivers are, in their natural state, capable of navigation. There are a vast number of springs, many of which are thermal.

The climate resembles in most respects that of Mexico, a striking difference being experienced between the temperature of the coasts and that of the elevated interior. Indeed, the distinctive appellations of cold, temperate, and hot, climates, are often applied by the inhabitants to districts which border closely upon one another. A great quantity of rain falls during the wet season, often accompanied by violent thunder and lightning. The rains generally begin about the middle of May, and continue until the middle or end of October: the dry season then sets in, and lasts for seven months, during which period no rain is expected, and a casual shower is of rare occurrence.

Central America possesses mines of gold and silver, as well as other mineral produce of value, including iron, lead, and mercury, with various marbles and other stones. But the real wealth of the country consists

in its vegetable productions, which embrace indigo, sugar, coffee, cotton, tobacco, cocoa, cedar, mahogany, with numberless dye-woods, balsams, gums, and medicinal herbs. The forests are very extensive, and cover large tracts of country. The neighbouring seas produce pearls, and abound in tortoises and fish of various kinds.

(771.) *Inhabitants.* — Central America has a population exceeding two and a half millions: probably fewer than a quarter of these are whites (chiefly creoles, that is, people of European parentage). The other three-fourths are divided between Indians and people of mixed descent, of whom the latter — called *ladinos*, or *mestizos* — are the more numerous. There are a few negroes, but their number is inconsiderable. The *ladinos* are fairer in complexion than the mixed races in some other parts of America, and many of them are little distinguishable from the whites. The Indians of Guatemala preserve to a great degree their aboriginal customs and language; in the other States they speak the Spanish tongue, and are more blended with the mass of the people. Guatemala is more populous than either of the other countries of Central America, and had, in 1852, a population of 970,000.

The pursuits of industry are not in a flourishing condition in this part of the American continent. Agriculture is very imperfectly pursued, and the only manufactures are a few coarse cotton and woollen goods, together with coarse earthenware. But some of the vegetable produce of the country is exported, and a variety of foreign manufactured commodities are received in return.

Of the articles which furnish the exportable wealth of Central America, the *indigo* of Salvador, and the *cochineal* of Guatemala, hold the prominent rank. *Coffee* assumes the next place on the list, and is yearly becoming of greater importance, especially that grown in the State of Costa Rica. The remaining items include a little sugar, a small quantity of hides, with Nicaragua wood, mahogany, balsam, and sarsaparilla. There is no doubt that sugar, tobacco, and cotton, might all be rendered great staples of produce, were the necessary attention bestowed upon their culture.

The means of internal communication are wretchedly defective: the roads are mere tracks, worn by the frequent passage of men and animals. No species of wheel carriage can be used, and the only mode of transport is that of mules, or the backs of the Indians for articles of moderate weight.

(772.) *Divisions, Towns, &c.* — The five States of Central America were originally, like Mexico, in the possession of the Spanish Crown, and formed the kingdom (or Captain-Generalcy) of Guatemala. But these provinces succeeded, in 1823, in establishing their independence of Spain, and formed themselves into a federal republic, — under the title of the "United States of Central America:" with a President, a Senate, and a

Federal Congress. In the institutions which they adopted, all distinctions of colour were disregarded, and the privileges of the constitution thrown open to all classes. But, since 1839, the Union between the different members of the Confederation has been virtually dissolved, and each State is now a sovereign republic. Guatemala is the most important and flourishing, and has enjoyed a greater share of tranquillity than any of its neighbours.

The State of GUATEMALA is divided into seven departments : its capital is the city of *New Guatemala*, situated on a high plain, 4370 feet above the sea, and at a distance of 45 miles from the coast of the Pacific. It is a well-built place, with 60,000 inhabitants.—*Old Guatemala*, which lies in a beautiful valley (21 miles to the south-west), was abandoned as the capital, owing to the numerous earthquakes and volcanic eruptions by which it had suffered, but has still a population of 9000. Upon either side of the valley are the volcanic peaks of *Fuego* and *Agua*, the latter deriving its name from the water which it emits during periods of eruption.—The ports of *Istapa*, on the coast of the Pacific, and *San Tomas* (or St. Thomas), near the head of the Gulf of Honduras, upon the side of the Atlantic, are the chief outlets for the foreign trade of the republic. The Gulf of Honduras is connected by the river Dulce with the Gulf of Dulce, a navigable fresh-water inlet.

(773.) The Republic of SALVADOR is divided into four departments. The city of *San Salvador*, its capital, was for a time the seat of general government for the Federal Union. It lies at a distance of 22 miles from the coast, and contains 20,000 inhabitants.

Salvador possesses three ports — those of *Acajutla* (near the western limit of its coast), *Libertad*, and *La Union*, the last named of which lies on the Gulf of Conchagua. The tract of coast which lies between Acajutla and Libertad is remarkable as the only district which furnishes the so-called "*balsam of Peru*." It is inhabited by a few Indian families, who extract the balsam by making an incision in the trunk of a tree which is abundant here, though not found anywhere else.

(774.) HONDURAS is the principal mining district of Central America, but the produce of the workings is now of trifling amount. The population of the entire territory does not exceed 380,000.

Honduras contains seven departments: its capital is *Comayagua*, with 18,000 inhabitants; it includes the sea-ports of *Truxillo* and *Omoa*, both on the coast of the Gulf of Honduras.

(775.) The State of NICARAGUA is advantageously circumstanced both for the purposes of agriculture and commerce, and derives importance from its intermediate position between the two great oceans. It contains a population of 350,000, who are chiefly located along the line of the Pacific coast, and in the country which lies adjacent to the large lakes of Nicaragua and Managua.

The city of *Leon*, in the north-west part of the territory (at a distance of ten miles inland), is the capital of the republic : but it has suffered greatly during the political troubles of the last quarter of a century, and has declined from the importance which it once possessed. The port of *Realejo*, on the Pacific coast, at a distance of eighteen miles to the north-west, commands some trade.

Granada, one of the oldest cities in Central America, lies near the n. w. shore of Lake Nicaragua, and carries on some trade by means of

that lake and the river San Juan : it has 10,000 inhabitants. *Managua*, on the lake of that name, is peopled chiefly by Indians.

The town of *Nicaragua* stands about four miles distant from the western shore of Lake Nicaragua, on the narrow isthmus which intervenes between that body of water and the Pacific. Lake Nicaragua receives the drainage of an extensive tract of country. Near the shores, to a distance of 100 yards from the beach, it has in general a depth of two fathoms ; in other parts, the soundings vary between five and fifteen fathoms. It contains numerous islands. The port of *San Juan del Sur*, on the coast of the Pacific, is twelve miles s. by w. of the town of Nicaragua, and about the same distance (in a straight line) from the nearest point of Lake Nicaragua.

(776.) COSTA RICA contains few towns, and is thinly inhabited, except in one particular district, towards its northern limits. The capital of this State is the city of *San José*, which lies about midway between its opposite coasts. Further to the eastward is the city of *Cartago* : in its neighbourhood is a volcanic mountain, of the same name, from the summit of which both oceans can be distinctly seen.

The two chief ports of Costa Rica are *Punta Arenas* (upon the Gulf of Nicoya, on the Pacific) and *Matina*, on the Caribbean Sea. The principal produce of the State is coffee, the culture of which has of late years been pursued with great success.

(777.) The MOSQUITO TERRITORY adjoins the state of Costa Rica on the south, and the republics of Nicaragua and Honduras on the west. It is inhabited by a mixed population of negroes and sambos (that is, half-castes between the Indian and Negro races), together with some tribes of pure Indian blood. The latter dwell towards the interior—the former chiefly among the swamps and forests that line the coast.

The Mosquito Indians profess to regard their country as forming an independent state, under the protection of the English government. Their ancestors, it is true, were never subdued by the former Spanish rulers of Central America, but the claim to rank as an independent nation on the part of a handful of half-naked savages (for such the inhabitants of the Mosquito territory really are),—whose nominal king, moreover, is a mere tool in the hands of the white residents—is more than questionable. The whole tract of coast has been recently declared annexed to the state of Nicaragua, which it immediately adjoins.

Immense quantities of fine timber are found at various places along the Mosquito coast, and sarsaparilla is abundant. A great deal of tortoise-shell of the best quality is obtained on the shores. The port of *San Juan de Nicaragua*, or *Grey Town* (situated at the mouth of the river San Juan), is the principal settlement in this territory, and is inhabited by people of various nations, under the protection of their respective consuls. Grey Town has become of late an important seat of trade, and is rapidly increasing in population. *Bluefields*, on the coast to the northward, a poor collection of huts, has been regarded as the capital of the so-called Mosquitian sovereignty.

One of the most frequented lines of route hitherto established between the opposite shores of the American continent proceeds by way of San Juan de Nicaragua (or Grey Town), the river San Juan, Lake Nicaragua, and the port of San Juan del Sur, on the Pacific.

The river San Juan and Lake Nicaragua are navigated by steamers; the remaining portion of the route is overland.

(778.) The colony of **BRITISH HONDURAS**, or **BELIZE**, embraces the most north-easterly portion of the coast of Central America. Upon the north and north-west it is bounded by the province of Yucatan, on the south-west and south by Guatemala, and on the east by the Gulf of Honduras. Its inland limits are undetermined, but it probably includes an area of not less than 14,000 square miles.

The coast of Honduras is in many parts low and swampy, but the interior is hilly. The principal river is the Belize, at the mouth of which is a town of the same name, the capital of the province. The climate is unhealthy during the wet season (between the months of June and September), when the usual fevers of tropical countries prevail. The greater portion of the country is covered with forests, among which numerous wild animals are found.

British Honduras contains about 10,000 inhabitants, chiefly negroes. Their principal employment is in connection with the forests, which supply abundance of mahogany and other timber. The greater part of the trade is carried on through a few extensive establishments at the town of *Belize*, in the service of whom the mahogany-cutters are employed.

The exports of British Honduras comprise mahogany, logwood, rosewood, hides, tortoise-shell, fustic, cochineal, indigo, sarsaparilla, and cocoa-nuts. But most of these articles are only in small quantities. Some British manufactures are imported.

This territory forms a dependency of Jamaica, and is governed by a superintendent. It is also included in the diocese of Jamaica.

(779.) The islands of Ruatan, Bonaca, Utila, and a few others of smaller size, situated in the Gulf of Honduras, lie off the northern shore of the republic of that name, to which they now belong. Ruatan, the largest of the number, measures upwards of thirty miles in length, with an average breadth of three or four miles. These islands, after being for some years a dependency of the British crown, were in 1860 transferred to the sovereignty of Honduras.

SECTION V.—THE WEST INDIES.

(780.) The islands of the West Indian Archipelago include three principal divisions—the Greater Antilles, the Lesser Antilles, and the Bahama Islands (Art. 714). The whole of the two former divisions, and a portion of the latter, are situated between the tenth degree of north latitude and the Tropic of Cancer, so that they lie principally in the northern half of the Torrid Zone.

The total area of the West Indian Islands is probably not less than 95,000 square miles. The Greater Antilles include upwards of 80,000 square miles, a surface nearly equal to that of Great Britain.

(781.) *Natural Features, Climate, &c.*—Nearly all the

islands of the Greater and Lesser Antilles are mountainous, and they exhibit great diversities of surface. In Cuba and Hayti, the highest elevations exceed 8000 feet above the sea, and some of the hills in Jamaica are of nearly equal altitude. Many of the Lesser Antilles rise to elevations of between four and five thousand feet, and nearly all of them exhibit signs of volcanic action—several, indeed, containing active volcanoes. The Bahama Islands are for the most part low.

The eastern shores of the Lesser Antilles are open to the influence of the trade-wind, as well as to the equatorial currents of the Atlantic ; on this side they are generally rugged and abrupt, rising with a steep ascent from the sea. The refreshing influence of the trade-wind causes the vegetation to be more vigorous here than on the opposite, or western, side of the chain, where the heat of the sun is felt with greater intensity. The coasts of nearly all the smaller islands are high and rocky, and they are indented by numerous bays and inlets, many of which afford excellent anchorage for vessels.

The climate of the West Indies is strictly tropical, but the influence of the surrounding seas moderates the otherwise intense heats of the torrid zone. The mean annual temperature of the larger islands is perhaps about 78° , and that of the Lesser Antilles about 2° higher. In the mountainous districts of Cuba slight frosts occasionally occur in winter, but no snow is ever known to fall. At Havanna the hottest months average about $81\frac{1}{2}^{\circ}$, and the coldest are a little above 71° . Kingston (in Jamaica) has a rather higher average throughout the year, and in several of the smaller islands the heat of summer is more considerable.

The only alternation of seasons known in the West Indies is that from drought to moisture. The quantity of rain which falls in all the islands is considerable (Art. 715), and in most parts of the Archipelago there are two wet and two dry seasons.

Along the southern coasts of Porto Rico, Hayti, and Jamaica, the rains commence in the middle of April or the beginning of May, and last until the end of November—with the interruption of a short dry season, of about six weeks' duration. This period of dry weather occurs in the months of June and July in the two former islands, but in Jamaica not until August and September. In the last-mentioned islands the rains are generally very violent during June and July, and descend in torrents for two or three hours every day—frequently accompanied by thunder-storms. The long dry season begins in November and lasts until April, during all which time the sky is clear and cloudless, and neither rains nor storms occur. Upon the northern side of these islands the succession of the dry and rainy seasons is less distinctly marked, and in Cuba the rain is more distributed throughout the year ; though the period between July and September, when it descends in violent torrents, is that in which the greater quantity occurs.

In the Lesser Antilles the long dry season commences about the end of November, or the beginning of the ensuing month, and continues till the end of March : during this period only a few slight showers fall, while the sky is cloudless, and the air calm and transparent, for weeks,

and even months, in succession. Then follows a short rainy season, of about six or seven weeks' duration (from the beginning of April to the middle of May), during which time showers fall nearly every day. This short rainy season is separated from the great rains by a dry and hot season, which continues through the month of June. The great rains commence in the beginning of July, and are ushered in by violent gusts of wind, accompanied by terrific thunder-storms, with vivid and continual flashes of lightning. The rains now descend in torrents, but they rarely last for many hours without intermission, several showers generally occurring in the course of each day. In August their violence begins to diminish, but they do not become gentle before the month of October, with the close of which they altogether cease.

All the Lesser Antilles (excepting the two most southern, Trinidad and Tobago) are within the range of the hurricanes, which sometimes rage with terrific violence. Hurricanes are of less frequent occurrence in the larger islands of the Archipelago, and rarely occasion any considerable damage.

The climate of the West Indies is generally healthy between the months of November and June; but during the great rains various diseases, and especially fevers, are of frequent prevalence. Earthquakes are of not unfrequent occurrence, though much less destructive in their effects here than on the continent of South America.

The smaller islands of the West Indies contain no minerals in sufficient quantity to repay the labour of working; but Cuba and Hayti possess both gold and silver, as well as several of the more useful metals. Copper is particularly abundant in Cuba, and is worked to a considerable extent, and coal is found in the neighbourhood of Havanna. Alum and copperas occur in the same island, as well as many other mineral substances.

The vegetable productions of these islands are rich and abundant. Among the principal articles which they supply to the commerce of the world are sugar, coffee, cotton, and pimento; others of less importance are indigo, ginger, arnotto, aloes, sassafras, and the castor-oil tree. The most common fruits are the pine-apple, the cocoa-nut, the pomegranate, the cabbage-tree, the cashew, the mango, guava, shaddock, papaw, forbidden fruit, orange, lemon, bread-fruit, and the banana. The plantations of the banana and plantain are extensive in most of the islands; those of cocoa are for the most part confined to the island of Trinidad.

In the Greater Antilles, the mountains are clothed with extensive forests, which supply large quantities of mahogany and other valuable timber.

The grains of England are not generally cultivated in the West Indies. Indian corn, or maize, is universally grown, and yields abundant crops: rice is only raised to any extent in the island of Trinidad. Many nutritious fruits are cultivated under the name of ground-provisions, as the yam, manioc (or cassava), sweet potato, and others.

The cattle in these islands are generally of small size. Only a few of them contain sheep and goats, and but a small number of horses and mules are reared. Hogs are more abundant than any other domestic animals. There are not many wild animals, excepting hogs, monkeys, and a few creatures of smaller size. The cayman is common, as well as various lizards and snakes: fish and turtle are abundant; and parrots,

flamingos, and humming-birds, are common. Insect-life is also particularly abundant here, as in other parts of tropical America (Art. 718).

(782.) *Inhabitants.*—The total population of the West Indian Islands is about 3,500,000. Above half of them are negroes; the other half is composed chiefly of mulattoes (or people of mixed European and negro blood, mixed with a small proportion of whites). The native Indian race, by whom the islands were occupied prior to their discovery by Europeans, have been altogether exterminated, with the exception of a few families scattered in one or two of the smaller islands. In Cuba and Porto Rico the white population bears a larger proportion to the total number of inhabitants than in any of the other islands.

With the exception of Hayti, all the islands of the West Indies are in the possession of European nations, and the white population of each consists principally of settlers from the country to which it belongs. Thus the white population of Cuba and Porto Rico is entirely of Spanish descent, and that of Jamaica of English origin. The descendants of white parents (of whatever nation) born in the West Indies are distinguished as *creoles*,—this term being properly applied in those cases only in which *both* parents are of European origin. Those born of mixed parentage are called *mulattoes*, or (in Cuba) *pardos*.

In all the British West Indies the Negroes have been, since 1834, in the position of free labourers. In most of the other islands (excepting Hayti) the black population consists chiefly of slaves. In Cuba the slave-trade is still carried on, and negroes are annually imported from the opposite side of the Atlantic.

The staple productions of the West Indies are sugar, rum, molasses (or treacle), and coffee; besides cocoa, tobacco, cotton, spices, and many other tropical plants and fruits. The cultivation of the soil is entirely performed by the negro portion of the population; nor, indeed, is any other race found capable of sustaining the severe fatigue of agricultural labour under the intense heat of a tropical sun. In the British West Indies, the amount of sugar and other articles produced for export is much less now than it was formerly, previous to the emancipation of the slaves.

(783.) *Divisions, Towns, &c.*—The Spanish possessions in the West Indies are the Islands of Cuba and Porto Rico, with a few small dependencies of the former.

CUBA is the largest island in the West Indies, and is distinguished as the “Queen of the Antilles.” From east to west it measures 750 miles, and has an average breadth of between 60 and 70 miles: its area is about 43,000 English square miles.

The coast of Cuba is for the most part thickly beset with rocks, coral reefs, and small islets, and only a third part of its extent is accessible to vessels; but within this portion there are several excellent harbours. A chain of mountains stretches through the interior of the island, and in

the eastern part—where it bears the name of the *Sierra Maestra*—attains a height of nearly 8000 feet above the sea. From the base of these mountains the country opens out into extensive plains and savannahs, most of which are well watered and covered with luxuriant vegetation.

Cuba had in 1859 a total population of 1,024,000, of whom 480,000 were whites, 172,000 free blacks, and 372,000 slaves. Sugar is by far the most important object of cultivation, and next to it tobacco and coffee. But the quantities of tobacco and coffee exported of late years have declined in amount, while that of sugar is increasing. The coffee plantations are chiefly confined to the north side of the island. The best tobacco is produced in the neighbourhood of Havanna. Small quantities of cotton, cocoa, and indigo, are grown. Rice is produced in some districts, but maize is the grain most extensively raised. Less than a third part of the land is under cultivation.

The only manufactures of Cuba are the making of sugar, molasses, and cigars; together with bleaching wax, and the preparation of coffee. The commerce of the island is considerable, and is carried on with Great Britain and other European countries (including Spain), as well as with the United States. The exports are sugar, molasses, coffee, tobacco, honey, wax, rum, hides; mahogany, cedar, fustic, and other woods; and copper ore. The imports are grain and flour (the quantity of corn grown on the island being insufficient for its consumption), salt meats and fish, brandy, wines, and manufactured cotton and other goods—the latter chiefly from Britain. The two principal ports are Havanna and Matanzas.

Havanna, the capital of Cuba, and the largest city in the West Indies, is situated on the north coast of the island, beside an extensive bay, which forms a safe and excellent harbour. It has a population little short of 200,000, the upper classes of whom are distinguished for the liveliness and gaiety of their manners. *Guabanaçoa*, on the opposite side of the bay, has 10,000 inhabitants.

Matanzas (45,000 inhabitants), further to the eastward, is, next to Havanna, the most commercial town in Cuba. *Puerto Principe*, an inland town in the eastern half of the island, has 30,000 inhabitants, and *Santo Espiritu* (also in the interior), 11,000. Among the other principal seaports are *Nuevitas*, on the north coast; with *Santiago de Cuba* (26,000 inhabitants), *Manzanillo*, and *Trinidad*, upon the south side of the island.

Numerous railways have been constructed in Cuba of late years, by means of which the capital is connected with the principal agricultural and commercial districts. Steam-vessels ply between Havanna and other parts of the coast.

Cuba is under the government of a Captain-General, appointed by the Spanish Crown. This island has belonged to Spain ever since the year 1511, when the first European settlement was made upon its shores.

(784.) *Porto Rico* is situated considerably to the eastward of Cuba, the large island of Hayti intervening between them. *Porto Rico* measures ninety miles in length by about forty miles in breadth, and has an area of 2970 square miles. The interior forms a broad mountain-mass, with an average height of 1500 feet. Between the hills there are watered and well-wooded valleys, and alluvial plains, the soil of which is very

fertile. The higher parts of the island are adapted to the cultivation of European grains, and the climate is generally healthy.

The population of Porto Rico is about 500,000, nearly half of whom are whites, and a considerable proportion free people of colour; fewer than a tenth of the total number are slaves. The principal productions of the island are sugar, coffee, molasses, rum, and tobacco; these are exported, together with a small quantity of cotton, and hides and cattle. The trade is chiefly with the mother country and the United States.

The capital of the island is *San Juan de Porto Rico*, a town with 30,000 inhabitants, situated on the north coast. Porto Rico has remained in the possession of Spain since its discovery by Columbus, in 1493.

(785.) The island of HAYTI, or ST. DOMINGO, measures nearly 400 miles in its greatest length, with an average width of rather more than 100 miles in its broader portion; but the western extremity of the island forms a long and narrow peninsula. The area of this island is about 30,000 square miles.

In the interior of Hayti is a highland tract, called the Mountains of Cibao, whence several ranges diverge, and stretch to the extremities of the island, terminating upon the coast in bold headlands. Between the ranges there are extensive and beautiful plains, watered by fine rivers, and exuberantly fertile. Many of the rivers are navigable by boats through great part of their courses, and the shores, which are generally high and rocky, contain numerous good harbours. The greater part of the island is covered with dense forests of mahogany, iron-wood, log-wood, cedar, and other trees; and nearly all the finest productions of this part of the globe are indigenous to the soil. The mineral productions are valuable, but are not worked. A hill composed of magnetic ironstone (known as "the Loadstone Mountain") rises, at some distance in the interior, above the banks of the river Yuna, which flows into the Bay of Samana, on the northern side of the island.

The population of Hayti is between 600,000 and 700,000; nearly the whole are either negroes of pure blood, or else mulattoes, the whites not amounting to more than a few hundreds. The people in the western part of the island speak a corrupted dialect of the French, intermixed with various negro languages, and those in the eastern half use a similarly corrupted dialect of the Spanish tongue.

The exportable productions of Hayti are limited to mahogany and a few other woods, with hides, dried beef, coffee, and a small quantity of cotton. The trade of the island was formerly very considerable, and its productiveness in sugar and other tropical staples equal to that of any part of the West Indies. But since the commencement of the present century (at which time Hayti first became independent), the amount of produce has immensely fallen off, and its commerce has declined in proportion. At present, the principal foreign trade is with Great Britain, France, the United States, Holland, and Germany, whence manufactured fabrics, wines, brandy, and various articles of consumption, are imported. There is also a considerable amount of smuggling carried on between Hayti and Jamaica. The principal seats of trade are Port au Prince, Cape Haytien, Samana, Cayes, Jacquemel, and Gonaives.

Port au Prince, the capital of the Haytian republic, and the principal town on the island, is situated on the w. coast, at the head of a fine bay, and has 30,000 inhabitants. The port of *Gonaives* is also on the w. coast further to the northward. *Cape Haytien*, a large and well-built town on the north side of the island, has 10,000 inhabitants. *Cayes*, a small town on the s. w. coast, was formerly more considerable, but has now only 3000 inhabitants. *St. Domingo* (10,000 inhabitants), on the s. e. coast, is the oldest existing European settlement in the New World, having been founded in 1502.

Up to the close of the last century the possession of Hayti was divided between France and Spain, the former owning the western, and the latter the eastern, half of the island. But the great outbreak of the French Revolution, in 1789, was followed by violent political disturbances, which resulted in the negroes revolting from the authority of their white masters, and declaring the independence of the island. Since then Hayti has formed an independent state, nominally under a republican form of government, but in reality constituting a military despotism, and has been the frequent scene of the most frightful anarchy and bloodshed. At the present time the island constitutes two distinct states, the eastern or former Spanish portion bearing the title of the Dominican Republic (of which the town of *St. Domingo* is the capital); and the western forming the Republic of Hayti. The town of *Samana*, on the n. e. coast, and within the limits of the Dominican republic, has recently been occupied by France as a naval station.

(786.) The British possessions in the West Indies embrace the large island of Jamaica, with the greater number of the Lesser Antilles, and the entire archipelago of the Bahamas.

JAMAICA lies to the southward of Cuba. From east to west it measures nearly one hundred and fifty miles, with an average breadth of between thirty and forty miles, and has an area of about 4300 square miles—or four-fifths of that of the county of York.

A chain of mountains runs through the centre of Jamaica from west to east; in the eastern part of the island they are called the Blue Mountains, the highest summits of which exceed 7000 feet above the sea. The valleys which intersect them are generally narrow: but an extensive open tract, called the Plain of Liguanea, extends along the south coast. The whole island is well watered: the rivers are not in general of sufficient depth to admit of their being navigated, but one of them—the Black River, which enters the sea upon the south-west coast—is ascended by canoes and flat-bottomed boats to a distance of thirty miles.

The coasts of Jamaica contain numerous safe and excellent harbours, and there are as many as thirty ports which are capable of affording shelter to vessels. In the valleys and level tracts the soil is generally fertile, and well suited to the growth of the sugar-cane and other tropical plants. The climate was formerly accounted unhealthy to Europeans; but the yellow fever is now much less prevalent than in former years, and, with the exercise of temperate habits, the air of Jamaica is not found to be more prejudicial to health than that of any other portion of the torrid zone. Among Europeans as well as Negroes, many individuals remain to an advanced period of life in the enjoyment of perfect health.

The population of Jamaica amounted, in 1854, to 377,400, of whom more than three-fourths are negroes, and the remainder mostly mulattoes—the whites being fewer than one-twentieth of the whole. The principal productions of the island are sugar, rum, molasses, coffee, and pimento (or allspice); with smaller quantities of cocoa, cotton, ginger, indigo, tobacco, and logwood. The imports are chiefly British manufactures, some of which are re-exported to Cuba and the countries of the neighbouring continent,—the island serving as a general depôt for the British trade in this part of the globe.

Jamaica is divided into three counties—those of Surrey (in the eastern part of the island), Middlesex (in the middle), and Cornwall (in the west). The largest place on the island is *Kingston*, which stands on a fine harbour upon the south coast, and carries on the greater part of the trade; it has 30,000 inhabitants. Upon a tongue of land at the entrance of Kingston harbour are the remains of Port Royal, formerly a splendid town, but entirely destroyed by an earthquake in the year 1692. *Spanish Town* (or Santiago de la Vega), situated in a fine valley to the west of Kingston, is the seat of government, and has 5000 inhabitants.

The other towns in Jamaica are of small size, but several of them carry on considerable trade: among the principal are Port Morant, and Savannah-la-Mar, upon the south coast; and Port Antonio, Annotto, Falmouth, Montego Bay, and Lucea, upon the north shores of the island.

To the north-westward of Jamaica are the three small islands of Grand Cayman, Little Cayman, and Cayman Brack; the first mentioned is covered with cocoa-nut trees, and is the only one that is inhabited. The people upon it are chiefly engaged in catching turtle. These islands belong to Britain, and are dependencies of Jamaica.

Jamaica is under the administration of a Governor and Council, appointed by the British Crown, with a House of Assembly, elected by qualified classes of the inhabitants. This island was originally colonised by the Spaniards, in 1503, and remained subject to the Spanish Crown until 1655, in which year it was taken by an English fleet. Since that period it has constituted a British possession; but its commercial importance is now considerably less than in former years, and its plantations have undergone an immense depreciation in value.

(787.) The smaller islands in the West Indies which belong to Britain are (beginning with those nearest to the South American mainland)—Trinidad, Tobago, Barbadoes, Grenada, St. Vincent, St. Lucia, Dominica, Antigua, Barbuda, Montserrat, Nevis, St. Christopher, three of the Virgin Islands, and the archipelago of the Bahamas.

In most of the above islands the ruling power is delegated to a Lieutenant-Governor and Council, assisted by a House of Assembly, or local parliament. But Trinidad and St. Lucia are each governed by the direct authority of the Crown, without the intervention of any local legislature. These two islands, as well as Tobago, Grenada, and St. Vincent, are subject to the general authority of the Governor of Barbadoes, who is Governor-General of the Windward Islands, as the islands that extend from Trinidad to Dominica are commonly termed.

(788.) TRINIDAD is the most considerable of the Lesser Antilles, and has an area of 2020 square miles. It is separated from the coast of Vene-

zuela by the Gulf of Paria, a large and generally shallow gulf which receives some of the branches of the Orinoco. The Gulf of Paria communicates with the sea by two straits, which are called respectively the Dragon's Mouth and the Serpent's Mouth: the former of these lies between the north-west point of Trinidad and the mainland; the latter adjoins the south-west point of the island.

Three chains of hills extend across Trinidad from east to west, but the interior of the island is for the most part level. Near its south-western extremity is the so-called Pitch Lake, which is really an extensive plain covered with bitumen. This substance is also found in other parts of the island, and has been largely exported of late years. There are some mud volcanoes in the same region.

Trinidad produces sugar, molasses, rum, coffee, and a considerable quantity of cocoa, besides some cotton and ginger. The population is upwards of 68,000; the few whites are mostly of Spanish descent. The capital of the island is *Port of Spain* (12,000 inhabitants), on the western coast. *Naparima* is on the same coast, further to the southward. *Macaripe*, on the north coast, has a good harbour. Trinidad formerly belonged to Spain, but has been in the possession of Britain since 1797.

(789.) TOBAGO lies to the north-east of Trinidad, and has an area of 187 square miles, with a population of 15,000, only 300 of whom are whites. The island consists of a mass of rocks, which rise steeply from the sea at its north-eastern extremity, and thence descend with a gradual slope to the south-westward.

The chief productions of Tobago are sugar, molasses, and rum. The capital of the island is *Scarborough*, a small town on its south-eastern shore. There are fine bays on several parts of the coast. Tobago has been alternately in the possession of the English, Dutch, Spaniards, and French, but has finally remained in the hands of the English since 1793.

(790.) BARBADOES lies to the eastward of the general range of the Antilles. It has an area of 166 square miles, and is better cultivated and more populous than any other island in the West Indies,—forming, next to Jamaica, the most valuable of the British possessions in this part of the world.

Barbadoes is nearly encircled by coral reefs; the highest point on the island is only 1145 feet above the sea, but the surface is, nevertheless, diversified and picturesque. The soil is very fertile, and almost the whole of the island is under cultivation. Barbadoes does not possess any metals, but coal is found, and petroleum, potters' clay, and several ochres, abound. Its climate is among the healthiest in the West Indies, and its position renders it peculiarly open to the influence of the sea-breezes; but hurricanes of the most violent character not unfrequently occur.

The population of Barbadoes is 134,000, about 15,000 of whom are whites. The staple productions are sugar, arrow-root, aloes, and cotton. The capital of the island is *Bridgetown* (35,000 inhabitants), on the shores of Carlisle Bay, upon the south-west coast. Further to the northward, upon the west coast, is *Speightstown*. Near the east side of the island is Codrington College, the most important educational establishment in the West Indies.

Barbadoes was first made the seat of an English settlement in the year 1625, and has ever since remained a British possession.

(791.) GRENADA has an area of 125 square miles, and a population of 32,000. The centre of the island is occupied by a mountain mass, the valleys amongst which contain alluvial tracts of great fertility. About five-eighths of the surface are under cultivation; sugar, molasses, rum, and cocoa, are produced, and indigo, tobacco, and cotton, also thrive. The chief town is *St. George*, on the south-west side of the island; its harbour is one of the best in the West Indies.

To the northward of Grenada, and extending in a chain thence to *St. Vincent*, are several small and dependent islets embraced under the name of the Grenadines; the principal of them are *Cariacou*, *Canaguan*, and *Bequia*. They are mostly low rocks, destitute of water, but cotton and sugar are raised upon *Cariacou* and some of the others.

Grenada has remained in the possession of Britain since 1783, previously to which it had alternately belonged to France and England.

(792.) ST. VINCENT is 140 square miles in area, and has 30,000 inhabitants. A volcanic ridge runs through the island from north to south, forming towards the north the well-known *Souffrière*, from which a tremendous eruption occurred in the early part of this century. The climate of *St. Vincent* is exceedingly moist.

St. Vincent produces principally sugar, rum, and molasses. The capital of the island is *Kingstown*, on the south-west coast.

After fluctuating between the dominion of France and England during the wars of the last century, *St. Vincent* was finally ceded to the latter power in 1783.

(793.) ST. LUCIA, 215 square miles in area, is nearly covered with high mountains, among which is the *Souffrière*, a volcanic crater in occasional activity. The highest points on the island are two *pitons*, or conical peaks, which rise almost perpendicularly from the shores of a fine bay on the south-west coast.

The soil of *St. Lucia* is fertile, but the climate is moist, variable, and unhealthy. The population amounts to 25,000: the white portion of the inhabitants are chiefly of French descent. The exports are sugar, rum, molasses, coffee, and cocoa. The capital of the island is the town of *Castries*, upon the north-west coast.

St. Lucia was formerly a French colony, and after repeatedly alternating between the possession of France and England was finally ceded to the latter power in 1803.

(794.) DOMINICA has an area of 275 square miles. Its central parts are covered with rugged mountains, mostly clothed with forests of rose-wood and other ornamental timber. Hogs, poultry, and game, are plentiful on this island, and the fisheries are very productive. Bees abound in a wild state. Sulphur is abundantly thrown out from the numerous *souffrières*, or volcanic vents. The climate is moist and unhealthy, but the soil is rich and fertile.

Dominica has 22,000 inhabitants, less than 1000 of whom are whites. Its productions are coffee, sugar, rum, molasses, and a small quantity of cocoa and arrow-root: together with maize, cotton, and tobacco. The principal town is *Roseau*, on the south-west coast; further to the northward is *St. Joseph*, also on the west side of the island.

Dominica was first taken possession of by England in 1759, and with the exception of a brief interval between 1778 and 1783 (during which it fell under the dominion of France), it has since remained a British colony.

(795.) ANTIGUA, 108 square miles in area, is high and rocky round the shores, which are indented by numerous bays, harbours, and creeks. But the interior is principally level, the highest hills on the island not exceeding 1500 feet in elevation. The air of Antigua is dry and healthy, but there are no rivers, and the want of water is sometimes severely felt. The only springs on the island are brackish, and the inhabitants are obliged to preserve the rain-water for ordinary use. The amount of produce is, however, considerable, and sugar-plantations cover more than half the surface of the country.

The population of Antigua is 36,000: the exports are sugar, rum, and molasses, with small quantities of arrow-root and tobacco. The capital is the town of *St. John* (16,000 inhabitants) on the north-west coast, situated upon the shores of a well-sheltered harbour. *English Harbour*, on the s. coast, is an important naval station, and one of the finest harbours in the West Indies.

Antigua was first settled upon by a few English families in 1632, and has remained in the undisturbed possession of Britain since 1666.

The governor of Antigua is Governor-General of the Leeward Islands (by which name those of the West Indian Islands extending between Dominica and the Virgin Islands are commonly known), including Dominica, Montserrat, Nevis, St. Christopher, and others of the chain which belong to Britain.

(796.) BARBUDA is about 72 square miles in area: it consists chiefly of coral rocks, and is almost entirely level, the highest point only rising to 80 feet above the sea. The air is mild and healthy, and the soil fertile.

Barbuda has but few inhabitants, and those almost all blacks: it is a private possession of the Codrington family, and constitutes a proprietary government,—the only one in the West Indies. No sugar is grown, and only a very small part of the island is under cultivation. The inhabitants are chiefly employed in breeding stock, as cattle, sheep, pigs, and poultry, which are numerous exported to the neighbouring islands. Barbuda has no harbour, but ships anchor in a roadstead upon its western side.

MONTSERRAT (to the south-westward of Antigua) is 47 square miles in area, and is a mass of rocky hills, diversified by picturesque and fertile valleys. The population amounts to 7000; most of the whites are of Irish descent. Sugar is the principal produce of the island. The chief town is *Plymouth*; but the island has no harbour.

Montserrat was first settled by the English in 1632, and, with the exception of a brief interval, has remained in British possession since that time.

NEVIS (38 square miles), a beautiful and fertile island, consists of a single mountain, of volcanic formation, which rises with a gentle ascent above the sea. Only a small part of its surface is under cultivation, but excellent sugar is grown.

The population of Nevis is 9,500; the exports of the island are con-

finest to sugar, molasses, and rum. The capital is *Charleston*, a neatly built place, with a good roadstead.

ST. CHRISTOPHER, or St. Kitts, an island of long and narrow shape, has an area of 68 square miles. At its north-western extremity is Mount Misery, an extinct volcano ; the greater part of the surface is rugged and mountainous, but a fertile plain extends along a portion of the coast.

St. Christopher has about 20,000 inhabitants. Nearly one-half of the island is unfit for cultivation, but the sugar-cane is extensively grown in the remaining part, with some cotton, coffee, and indigo, and abundance of fruits. The town of *Basse-terre*, on the s. coast, is the capital.

This island was first settled by the English in 1623 ; its possession was subsequently shared for a time with France, but except during a brief interval it has remained in the hands of England, and has been in the undisturbed possession of our country since 1803.

ANGUILLA, or Snake Island (about 30 square miles), lies at some distance to the n. by w. of St. Christopher. It is fifteen miles long, but very narrow, and is low and flat. The island is deficient both in wood and water, but a little sugar is grown, with cotton, tobacco, and maize, and a great many cattle are reared. A small lake in the centre of the island yields a considerable quantity of salt, which is exported to the neighbouring continent.

Anguilla has 3100 inhabitants ; it forms a dependency of the island of Antigua.

(797.) Three of the Virgin Islands, namely, TORTOLA, VIRGIN GORDA, and ANEGADA, belong to Britain.

Tortola (26 square miles in area) is a mass of hills, the highest of which are 1560 feet above the sea. Virgin Gorda, which contains about 10 square miles, is hilly only in its eastern part, which is chiefly barren. Anegada lies to the northward of the main group, and consists entirely of low coral reefs, very little raised above the sea level ; it is about 14 square miles in area. The heat in these islands is not so great as in most other parts of the West Indies, and the climate is more healthy.

The total population of the three islands is about 7000, nearly half of whom are white settlers. Sugar and cotton, together with fruits and vegetables, are grown and exported. Many of the inhabitants live chiefly by fishing and rearing poultry.

Tortola contains by far the larger part of the population, and is the residence of the Lieutenant-Governor of the group. *Road-town*, a small place on the s. side of the island, is its capital.

The first settlers on these islands were Dutch pirates, who were expelled by the English in 1666, since which period they have remained in the possession of Britain.

(798.) The BAHAMA (or LUCAYOS) ISLANDS are the most northerly portion of the West Indies. They embrace several hundreds of small islets and rocks, mostly of long and narrow shape ; but only about twenty of the number are inhabited. The names of the principal members of the archipelago are Great Bahama, Great and Little Abaco, Eleuthera, Cat Island, New Providence, Andros Island, Great Exuma, Long Island, Acklin Island, Mariguana, Great Inagua, the group of the Caicos, and Turk's Island.

The Bahamas are covered with a light sandy and calcareous soil, based upon coral reefs. They are all low and level, with the exception of

Inagua, which contains a few hills; but many of the smaller islets are scarcely raised above the level of the surrounding seas. These low groups of rocks are called *Keys*, or *Cays*.

To the eastward of the Bahamas the sea is deep, and in many places unfathomable at a short distance from the shore; but on their western side there are extensive banks, formed of coral, with an accumulation of sand and shells, and covered with innumerable patches of coral reef. The navigation of the various channels between the islands is hence of the most intricate and dangerous character, and shipwrecks are of frequent occurrence.

The climate of the Bahamas is temperate and healthy, the thermometer generally ranging between 80° and 90° , though in winter it sometimes descends as low as 60° . Thunder-storms are frequent, and slight shocks of earthquake are sometimes felt. There are no streams or springs, but fresh water is easily procured by digging. In the more southern islands there are natural salt-ponds, which furnish a considerable supply of that mineral. Many of the islands contain a large quantity of timber; among the trees are mahogany, satin-wood, lignum-vitæ, cedars, pines, and fustic. Turtles abound on the shores, and are an article of export.

The Bahamas have a population of 27,600, fewer than one-fifth of them whites. Some of the people are engaged in the culture of the soil, and the islanders generally produce sufficient maize and ground provisions for their own consumption. Cotton is raised to a small extent, and pine-apples are extensively grown, as well as oranges, limes, and other fruits. Cattle are reared in great numbers: the wild hog and the agouti are found in the woods.

A large number of the inhabitants of the Bahamas follow the occupation of "wreckers," that is, are engaged in giving assistance to vessels in danger of shipwreck, or in saving the passengers and cargoes of such as have been lost in these dangerous seas. They are licensed for this purpose by Government.

The principal town in the Bahamas, and the seat of government, is *Nassau*, on the island of New Providence. The island of Guanahani—the first land seen by Columbus in the New World (A.D. 1492), and to which he gave the name of San Salvador—has been generally identified with Cat Island: but Watling Island, of smaller size, to the south-eastward, has better claim to the distinction.

The Bahamas were first colonised by the English in 1629, but were subsequently in the alternate possession of Spain and England. They were finally ceded to the latter power in 1783, and have since remained in the undisturbed possession of Britain. They are under the administration of a Governor, with a Council and a House of Assembly.

(799.) The British possessions in the West Indies constitute four sees of the English Colonial Church; the dioceses of Jamaica, Barbadoes, Antigua, and Guiana.

The diocese of Jamaica includes, besides the island of that name, the archipelago of the Bahamas, and the province of British Honduras, on the mainland.

The diocese of Barbadoes embraces that island, and the adjacent members of the Windward chain, from Trinidad to St. Lucia.

The diocese of Antigua comprehends Dominica and the other islands of the Leeward chain, including the archipelago of the Virgin Islands.

The diocese of Guiana consists of the province of British Guiana, on the South American mainland.

Numerous missionary establishments are maintained in the different islands, both by the Church of England and the members of the various dissenting bodies, especially the Wesleyan Methodists, and efforts have been made of late years to extend the means of moral and religious training to all classes of the population.

(800.) The French islands in the West Indies are Martinique and Guadeloupe, with some smaller dependencies of the latter.

MARTINIQUE (or Martinico) lies between St. Lucia and Dominica. It has an area of about 380 square miles. The interior is mostly covered with high and rocky masses, which penetrate in many places to the shores of the sea, and render the coast-line exceedingly irregular. Several of the summits exhibit the craters of extinct volcanoes. The island contains numerous streams, many of which are applied to the purpose of turning sugar-mills.

The more level portions of Martinique are very fertile, and, though hardly two-fifths of the surface are under cultivation, the amount of produce is very considerable. Sugar, coffee, cocoa, and cotton, are the articles principally raised, and the two former—together with molasses and rum—form the chief staples of export. The greater part of the trade is carried on with France, or with the various French colonies.

Martinique contains 121,000 inhabitants, fewer than one-twelfth of whom are whites. The largest town on the island is *St. Pierre* (18,000 inhabitants), on the north-west coast; but *Fort Royal*, in the south-west, is the seat of government.

The first European settlement on this island was made by the French, in 1635. It has on several occasions fallen for a time into the hands of the English, but was finally given up to France in 1814.

GUADALOUPE consists of two islands, divided by a narrow strait: the western of these is called *Basse-terre*, and the eastern *Grand-terre*. The two together have an area of 530 square miles, of which *Basse-terre* includes the larger portion. *Basse-terre* is for the most part covered with volcanic mountains. *Grand-terre* is chiefly level, and consists principally of coral rocks: it is less fertile than the other part of the island.

Guadeloupe includes as dependencies the smaller islands of *Mariegalante*, *Desirade*, the *Saintes*, and part of the island of *St. Martin*. *Mariegalante* lies to the southward of *Grand-terre*, and has an area of sixty square miles: it is hilly, but not of any considerable elevation. The *Saintes* are a group of small but lofty rocks, situated further to the westward, and off the south coast of *Basse-terre*: they produce a little coffee and cotton.

Desirade (sixteen square miles) is to the eastward of Guadeloupe; it forms a high and steep table-land, of limestone rocks.

St. Martin, a small island considerably further north, and immediately to the southward of *Anguilla*, is divided between the French and the Dutch. It consists of a mass of rocky hills, between which and the sea-shore are small lakes from which salt is obtained. The area of the whole island is eighty square miles, about twenty of which are included within the French part.

The total population of Guadeloupe and the above dependencies is

134,000, the great majority of them negroes. The staple articles of produce are the same as in the other West Indian Islands, and embrace sugar, molasses, rum, coffee, and cotton, with cocoa and tobacco.

The town of *Basse-terre* (9000 inhabitants), on the south-west coast of the island of that name, is the capital of the colony. *Point-à-Pitre* (15,000 inhabitants), on the west side of Grand-terre, is the seat of the greater portion of the trade.

Guadeloupe was first settled by the French in 1635. During the war of the last and the early portion of the present century, this island and dependencies fell on several occasions into possession of the English, but was finally confirmed to France in 1814.

(801.) The Dutch islands in the West Indies are part of St. Martin, with the small adjacent islands of Saba and St. Eustatius; and the islands of Curaçao, Oruba, and Buen Ayre, all three lying off the northern shores of Venezuela, on the South American continent. Slavery was abolished in these islands in 1848.

The Dutch part of St. MARTIN contains about 4000 inhabitants, three-fourths of whom are negroes. Sugar, cotton, and salt, constitute its productions.

SABA, situated to the south-westward of St. Martin, is a high rock which rises abruptly from the sea. It has an area of ten square miles, and contains about 450 inhabitants. Sugar, cotton, and indigo, are its articles of produce.

ST. EUSTATIUS lies midway between Saba and the island of St. Christopher: its surface is uneven, and rises towards the centre into an extinct volcano of considerable height. The crater of this contains the only water found on the island. St. Eustatius has an area of about 20 square miles, and contains 2400 inhabitants, chiefly blacks.

CURACAO, and the adjacent islands of Oruba and Buen Ayre, lie entirely within the Caribbean Sea, and are beyond the range of the Antilles. Curaçao has an area of 170 square miles: it is hilly in the interior, but only of moderate elevation: the shores are bold and rocky. It scarcely contains any water, and the soil is generally poor. The staple produce of the island is salt (procured by evaporation), which is extensively exported. The cochineal-plant (a species of cactus) has been carefully cultivated of late years. The tamarind and several other fruits are also reared, and the liqueur which bears the name of the island is extensively prepared from the juice of the lime. A great number of cattle, with sheep and goats, are bred for exportation.

Curaçao contains about 15,000 inhabitants. It has been alternately in Spanish, Dutch, and English possession, but was finally ceded to Holland in 1814. The town of *Willemstadt*, on the s.w. coast, is the capital, and the seat of government for this and the neighbouring islands.

ORUBA lies to the westward of Curaçao; iron-ore and gold are found on this island, which has fewer than 3000 inhabitants.

BUEN AYRE, or Bonaire, is to the east of Curaçao. It is hilly, and the soil in some parts arid, but produces timber and cochineal, as well as salt. It contains 1350 inhabitants.

(802.) The islands of SANTA CRUZ, ST. THOMAS, and ST. JOHN, which form part of the group of the Virgin Islands, belong to Denmark. They contain together a population of 41,000, chiefly slaves.

Santa Cruz is the largest of the Virgin Islands, and lies considerably to the south of the other members of the archipelago. It has an area of 110 square miles. The greater part of this island is flat, but a range of low hills extend along the north coast. Two-fifths of the surface are laid out in sugar plantations, and most of the remainder in general produce: some cattle are also reared. The town of *Christianstadt* (5000 inhabitants), on the north coast, is the capital; *Frederickstadt* is a small place on the west side of the island.

Santa Cruz has fluctuated between the dominion of Holland, Spain, France, and England, but was finally ceded to Denmark in 1814.

The islands of **St. John** and **St. Thomas** are both of them high and rocky, and their surface very irregular; they produce sugar and cotton to a small amount. In each of them the principal town bears the same name as that of the island.

(803.) **St. BARTHOLOMEW**, a small island lying to the south-eastward of **St. Martin**, belongs to Sweden. It has an area of 25 square miles, and contains between eight and nine thousand inhabitants; two-thirds of them are negroes, formerly slaves, but emancipated by the Swedish government in 1847. **St. Bartholomew** is hilly in the interior; it produces a small quantity of cotton, sugar, and indigo, but the only exports are cotton and salt. The chief town is *Gustavia*, on the west coast: its harbour, called *Le Carenage*, is safe, and much frequented by traders.

(804.) **Culebra** or **Passage Island**, and **Bieque** or **Crab Island**, are the two most westerly of the Virgin Islands, and are nearly adjacent to the coast of **Porto Rico**. **Culebra** has an area of about 30 square miles, and about 300 inhabitants. Wood, water, and fish, can be obtained there. The sovereignty of the island is claimed by Spain.

Bieque or **Crab Island** (40 square miles) has no permanent inhabitants, but the British, Danes, and Spaniards, have the joint right of cutting wood and fishing there.

(805.) The **BERMUDAS**, or **Somers Islands**, a small group situated in the open part of the Atlantic, at a distance of 580 miles to the south-east of **Cape Hatteras**, belongs to Britain. They lie along the south-eastern side of an extensive coral reef, and are entirely of coral formation.

The **Bermudas** are said to embrace upwards of three hundred and fifty islets and rocks, but most of these are of very small size, and only five of the number are inhabited: the largest of them is called **Bermuda** or **Long Island**. The total area of the group is about 22 square miles. The islands are all low; the highest land upon **Long Island** is only 180 feet above the sea, and many of the smaller islets are scarcely raised above the water. They contain neither springs nor streams, the only fresh water being that supplied by the rain, which is collected in tanks.

In their climate and general aspect the **Bermudas** resemble the more temperate portions of the **West India Islands**, a perpetual spring preserving the trees and grass in constant verdure. Fruits and vegetables are grown in great abundance, and the arrow-root raised here is esteemed of the finest quality. The culture of the orange is generally extending.

Only a small number of sheep and oxen are kept, but poultry is abundant; great numbers of turtle are taken during the summer. The adjoining seas are well stored with fish, and the whale-fishery employs about a dozen boats during three months of the year (between March and June).

The Bermudas contain a population of 11,000, rather more than half of whom are blacks and mixed people of colour. The principal employments of the inhabitants are the culture of the soil, and the building of small vessels, which are generally swift sailers, and very durable, being constructed of cedar. The plaiting of straw, and of the mid-fibre of the palmetto-leaf, are also carried on. The articles of export are arrow-root, potatoes, onions, and other vegetables; together with a fine kind of white free-stone (sent to the West Indies, for architectural purposes), and some salt. The imports are British manufactures, lumber, ships' stores, and provisions. The trade with Halifax (in Nova Scotia), Newfoundland, and the West Indies, is very considerable, and homeward-bound vessels crossing the Atlantic frequently touch at these islands.

The principal town in the Bermudas is *Hamilton*, upon the coast of Long Island, which is the seat of government. The town of *St. George* is situated on an island of that name, in the north-eastern part of the archipelago. Of late years these islands have been made the seat of a convict establishment; the convicts are chiefly employed upon public works, and an extensive dock-yard has been constructed upon Ireland Island, to the north-westward of the principal island. This dockyard is one of the most important naval stations in the British colonies, and is strongly fortified.

The Bermudas are under the administration of a Governor, with a Council, and a Legislative Assembly—the latter chosen by the inhabitants. They are included within the diocese of Nova Scotia.

These islands have remained in the possession of England ever since the first settlement made on them, in 1612. They derive their general appellation from that of a Spanish navigator—Juan Bermudez,—by whom they were discovered, in 1522. The name of Somers Islands is taken from Sir George Somers, an Englishman, who suffered shipwreck upon them.

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CHAPTER XV.

SOUTH AMERICA.

PHYSICAL GEOGRAPHY OF SOUTH AMERICA.

(806.) *Boundaries and Extent.*—South America — like Africa — forms a vast peninsula, united to the neighbouring continent by a narrow isthmus. Its northern shores are washed by the Caribbean Sea: its eastern by the Atlantic Ocean, and its western by the Pacific. Like Africa, too, the southern half of America is crossed by the line of the equator, which divides it into portions that are of very unequal extent. Four-fifths of the whole lie within the southern hemisphere. From a breadth of more than three thousand miles (under the parallel of 5° s.), it narrows gradually to the southward, and terminates in the rocky archipelago of Tierra del Fuego. Cape Horn, the most famous headland of the New World, is the southernmost extremity of Tierra del Fuego.

Cape Gallinas, the most northern point of South America, is in N. lat. $12^{\circ} 25'$. Cape Froward, the most southern termination of the mainland, is in $53^{\circ} 54'$ s. lat. The most eastern point is Cape Branco ($7^{\circ} 30'$ s. lat. ; $34^{\circ} 50'$ w. long.): the most western is Cape Parina ($81^{\circ} 18'$ w. of Greenwich). The superficial area of South America is about 7,000,000 of square miles (Art. 83).

(807.) *Mountains; Plateaus.*—The Andes, or Cordilleras de los Andes (*Chains of the Andes*), which extend close along the western coasts of the continent, are the principal system of mountains in the New World, and constitute the great feature in the physical geography of South America.

The Andes commence immediately to the southward of the Isthmus of Panama. Between the mouth of the river Atrato, which falls into the Caribbean Sea, and the Gulf of San Miguel, upon the coast of the Pacific, the dividing ridge reaches in its higher parts from 900 to 1600 feet above the sea. To the south of a line joining these points the mountains began to rise, and stretch thence in an

unbroken chain (or series of chains) to the southern extremity of the continent, through a length of four thousand miles.

In their northern portion the Andes form three principal chains, the most eastern of which rises immediately from the shores of the Caribbean Sea. About two degrees to the north of the equator, the middle and eastern chains unite, and the mountains thence extend in two parallel ranges as far as about the 20th degree of south latitude. Below this parallel they consist of only one principal chain, which gradually narrows as it advances to the southward, until it becomes merely a narrow ridge rising abruptly above the waters of the Pacific.

Throughout their course (except towards the most southern portion of the system) the Andes throw off numerous spurs and branch chains;—most of these assume a direction parallel to that of the principal range, though some of them run nearly at right angles to its course. The broadest part of the mountain-region is that which lies between the 20th and 25th parallels, where it is upwards of 400 miles across. In general, the breadth is considerably less—rarely exceeding from 200 to 250 miles, even in the more northern and extended parts of the system. But although the Andes thus surpass the Himalaya Mountains in length and continuity, as well as in the breadth of their wider parts, they are inferior in elevation to the great mountain-system of the eastern continent.

The entire system of the Andes is divided, according to the countries through which they extend, into the *Columbian*, *Peruvian*, *Bolivian*, *Chilian*, and *Patagonian*, Andes.

The Columbian Andes extend from the commencement of the mountain-region as far as the 4th degree of south latitude, consisting at first of three, and afterwards of two, parallel ranges, with longitudinal valleys between. The average height of this part of the system is from 11,000 to 12,000 feet, and the highest peaks exceed 20,000 feet. Numerous high summits lie upon either side of the table-land of Quito, immediately under the line of the equator; the most elevated of these is Chimborazo, 21,415 feet, which was long supposed to be the loftiest mountain in the New World. Cotopaxi, and other summits of nearly equal elevation, occur within this part of the mountain-region. This portion of the Andes is intersected by deep and narrow ravines, the sides of which descend perpendicularly to a depth of several thousand feet.

The most eastward of the three chains embraced within the Columbian Andes assumes a north-easterly, and afterwards an easterly, direction, and extends in a narrow ridge along the shores of the Caribbean Sea. This branch chain bears the name of the Mountains of Venezuela. The highest summit, the Silla de Caraccas, is 8630 feet above the sea.

The Peruvian and Bolivian Andes extend from the 4th to the 23rd parallel of s. latitude, and embrace a greater number of elevated summits than any other part of the system. The average elevation of the ranges is here from 12,000 to 14,000 feet, and the loftiest summits rise to an altitude of eight or nine thousand feet more. Among the stupendous masses which lie grouped around the table-land of Titicaca (between the 14th and 19th

parallels) are several which exceed 20,000 feet. The peak of Lirima, in the western cordillera (lat. $19^{\circ} 47'$) is supposed to reach from 24,000 to 25,000 feet. Many of the passes over this portion of the mountain-system are between 15,000 and 16,000 feet in height, and one of them exceeds 16,000 feet.

The Chilian Andes, which extend southward from the 23rd to the 42nd parallel, though perhaps of inferior average elevation to the mountains further northward, yet contain the highest measured summit in the entire system—*Aconcagua* ($32^{\circ} 38'$ s. lat.), which is 23,944 feet above the sea. Both to the north and south of this peak the average height of the chain is at least 12,000 feet, and several of the passes over it exceed that elevation.

The Patagonian Andes rise abruptly from the shores of the Pacific, and attain in some cases an elevation of 9000 feet. The coast is here indented by deep and narrow inlets, which penetrate within the mountain-mass, in a manner similar to the fiords upon the western shores of Norway. The islands which line this portion of the American coast are really parts of the mountain-region, severed from the mainland by deep channels, upon either side of which rise walls of nearly perpendicular rock. The mountains reappear in the western parts of Tierra del Fuego, and are finally lost in the rocky group of the Diego Ramirez Islands, to the south-westward of Cape Horn.

The height of the snow-line in the Andes varies in different parts of the system. In the Andes of Quito, under the equator, the limit of perpetual snow is found at 15,800 feet above the sea: in the Bolivian Andes it ranges from 15,900 to upwards of 18,000 feet—its superior altitude here being due to the increased breadth of the mountain-region, and the greater mass of the plateaus which it embraces. In the Chilian Andes, the snow-line gradually declines from 14,000 to 6000 feet, and thence progressively diminishes with the advance into a higher latitude.

(808.) No part of the world contains so great a number of active volcanoes as are ranged along the mountain-system just described. In the Patagonian Andes, between the parallels of 44° and 42° , there are four active volcanoes. In Chili there are a great number of volcanic summits, amongst them some of the loftiest peaks of the system. The country along the western foot of the Chilian Andes is more exposed to earthquakes than any other part of the world; the towns on this part of the coast have been repeatedly destroyed, and on several occasions whole tracts of country, extending over many thousands of square miles, have had their relative levels permanently altered.

The Bolivian and Peruvian Andes contain fewer active volcanoes, but Gualatieri (lat. $18^{\circ} 25'$), in the extreme south of Peru, surpasses in height any other peak that has been in recent eruption. In the Columbian Andes, immediately to the north and south of the equator, volcanoes again become numerous. Antisana, Cotopaxi, and other high summits in this part of the system, are active volcanoes, and are in frequent eruption.*

* The volcanic chain thus traced along the Andes is prolonged to the northward through the high mountain range which bounds the western

(809.) The parallel ridges of the Andes support between them narrow plateaus, some of which rival in elevation the highest table-lands of the Old World, though of inferior dimensions. The principal of these are the *Plateau of Quito*, lying under the equator, at an elevation of 9000 feet above the sea; the *Plateau of Pasco* (between 10° and 11° s. latitude) about 11,000 feet; the *Plateau of Titicaca* (extending between the 14th and 19th parallels), 13,000 feet in height; and the *Plateau of El Despeñadero*, which embraces the widest portion of the mountain-system (between the parallels of 21° and 26°), and has an altitude of from 13,000 to 14,000 feet. As seen from the summits of these elevated regions, the mountains exhibit an altitude much less than that which they present to view when regarded from the plains bordering on the coast, whence their full rise becomes visible. Even Chimborazo, though its absolute height is much greater than that of the highest among European mountains, has in reality a less elevation *above the plateau* from which it rises than that of Mont Blanc above the valley of Chamouni, which lies at its base.

(810.) South America contains two other mountain-systems, namely, the Mountains of Guiana, and the Mountains of Brazil. Both of these are of greatly inferior extent and height to the Andes, and are wholly unconnected with them.

The *Mountains of Guiana* lie in the general direction of east and west, and spread over a considerable breadth of country between the equator and the 7th degree of north latitude, separating the basins of the Amazon and Orinoco. The more western portion of the mountain-region is sometimes distinguished as the Parime Mountains, and the eastern part as the Sierra Acaray. The highest summit of the system is Mount Maravaca, towards its western extremity.

The *Mountains of Brazil* embrace a widely-spread system of heights; they lie mostly in narrow chains or ridges (of inconsiderable elevation), and divide the river-valleys in the more eastern portion of the continent. The higher portions of the mountain-region, in the centre of Brazil, form a table-land which is elevated from 1500 to 2000 feet above the sea. The mountains rarely attain a height of more than a thousand

side of the plateau of Guatemala, and in the volcanic summits which rise above the Mexican plateau. Further to the northward it is traced, at distant intervals, throughout the western coast of the continent, and re-appears in full activity in the neighbourhood of Cook's Inlet (60° n. latitude), whence a chain of active volcanoes extends in a w. s. w. direction through the peninsula of Alashka and the chain of the Aleutian Islands.

The islands which extend along the eastern shores of Asia contain numerous volcanoes, as noticed in a preceding page (Art. 460), so that the basin of the Pacific is surrounded by a vast girdle of volcanic agency.

feet above the plateau, though particular summits rise to a greater altitude. The mountain-region rises from the shores of the Atlantic Ocean by steep terraces, the first of which is formed by a chain called the Sierra do Mar ; the passes over this chain are 3000 feet above the sea, and its highest summits perhaps exceed 5000 feet. The most elevated summits of the entire system, however, appear to be under 6000 feet.

(811.) *Lowland-Plains*.—A great plain stretches through the whole length of South America, like that in the northern portion of the continent. This plain intervenes between the Andes on the one side, and the mountain-systems of Guiana and Brazil upon the other.

The Central Plain of South America is divided into three principal portions—the plain of the Orinoco, the plain of the Amazon, and the plain of the Rio de la Plata, deriving these distinguishing names from the three great rivers of this part of the American continent. The division between these regions is only marked by the undulating rise of ground which forms the watershed between the different river-basins, and this (as in the case of the North American plain) is at so trifling an elevation as to admit of ready communication between the head-waters of the opposite streams.

In reference to their great natural features, the three portions of the South American plain may be distinguished as the Region of the Llanos : the Region of the Selvas, or forest-plains ; and the Region of the Pampas.

1. The *llanos*, or *savannahs*, occupy nearly the whole basin of the Orinoco ; they are level grassy tracts, similar in general character to the prairies of North America, and are annually inundated by the rivers to an immense extent. At the close of the rainy season the llanos are covered with fine grass, and form rich natural pasture-grounds ; but during the dry weather the vegetation is entirely destroyed, and the parched ground opens in deep and wide crevices—to be laid under water with the return of the rains and again covered with the finest turf.

2. The *selvas*, or *forest-plains*, extend over the lower portion of the basin of the Amazon, within the limits to which the annual inundations of that river and its tributaries extend. A large part of this region is an uninterrupted forest, filled up with a dense growth of under-wood, and the whole matted together by innumerable creeping-plants. Along the immediate banks of the rivers there are swampy tracts of immense extent. Beyond the reach of the inundations the country extends in wide grassy plains.

To the south and south-eastward of the above region, the country which extends from the eastern foot of the Andes, over the upper tributaries of the rivers Madera and Paraguay, consists generally of open meadows, covered with grass and herbs. This portion of the plain is laid under water during the rains, and in some parts of it vast temporary

lakes are formed, which disappear with the return of the dry weather. The largest of these is the Lake of Xarayes, to the eastward of the upper Paraguay, which covers an immense extent.

Between the parallels of 20° and 28° the plain of the Paraguay (one of the chief tributaries of the Rio de la Plata) consists of a dry and sterile region, a large portion of which is desert.* In the southern part the soil is sandy, and impregnated with salt. To the south of this begins the region of the Pampas, which extend thence to the banks of the river Negro (in 39° s. lat.)

3. The *Pampas* are immense level plains, variously covered with long coarse grass, mixed with wild oats, clover, and other herbage; in some places consisting of swampy tracts, overgrown with canes and tall reeds, and in other districts covered with gigantic thistles, which grow to a height of eight feet, and are so thick as literally to render the country impassable. The last-mentioned description of country lies chiefly between the 32nd and 39th parallels, and extends from the shores of the Atlantic to the eastern base of the Andes. During nine months of the year the thistles are here the predominant (and almost the only) feature of the vegetable kingdom, but with the heats of summer these plants become burnt up, and their tall leafless stems are levelled to the ground by the powerful blast of the *pampero*, or south-west wind, from the snowy ranges of the Andes, after which the earth is covered for a brief time with herbage. This is destined, with the return of spring, again to give way to the stronger vegetation which it had succeeded, and for a time supplanted.

The plain which extends from the banks of the Negro (lat. 39° s.) to the southern extremity of the continent is for the most part barren: in some places it is covered with sand, mixed with stones and gravel, and has sea-worn and rolled shingle-stones imbedded in its surface. It contains no trees, but a scanty vegetation of shrubs and herbage is found in a few hollows and ravines.

(812.) Upon the western coast of South America a narrow plain extends between the foot of the Andes and the sea, excepting to the southward of the 42nd parallel, where the mountains rise immediately from the waters of the ocean. The widest part of this plain is that which stretches along the base of the Chilian Andes, where it is from sixty to a hundred miles across. This is in general well-watered and fertile.

That portion of the coast-plain which lies between the parallels of 27° and 28° south latitude is a perfectly sterile tract, called the *Desert of Atacama*, which extends between the Andes of the Desoblado and the Pacific. Within these limits not a drop of rain ever falls, and the air is only occasionally refreshed by mists and dews. The surface of this region is covered with hillocks of loose sand, or with naked rocks.

Further to the northward, along the coast of Peru, the plain is of

* This tract is called the Grand Chaco (or Chacu),—an Indian name signifying the lair, or place of refuge, of wild beasts.

narrower limits, varying from ten to sixty miles in breadth. Throughout the whole extent comprised between the parallel of 23° and the shores of the Gulf of Guayaquil (in $3^{\circ} 35'$ s. lat.), it consists of a narrow tract of sand, intersected by chains of hills which diverge from the great range of the Andes. Numerous rivers, of short courses, cross this portion of the plain from east to west, and along their banks are oases of luxuriant vegetation; but in all the intermediate spaces a fine yellow drift-sand covers alike both hill and dale. The wind raises the sand into columns of eighty or a hundred feet high, which whirl about in all directions, sometimes threatening to overwhelm the traveller, who only escapes from them by rapid riding. Besides these pillars of sand, there are also moving sand-hillocks, or *medanos*, which continually change their position, being driven forward by the wind, like the sand-hills in the African and Arabian deserts. The transverse chains of hills which extend, at intervals, from the Andes across to the coast, are a continual check to the onward movement of the sands, and serve to protect the banks of the rivers from being overwhelmed by their advance, and the entire plain from thus becoming converted into a sterile waste.

Northward of the Gulf of Guayaquil the coast-plain again becomes wider, and all its remaining portion is a well-watered tract, covered with rich vegetation.

(813.) *Rivers*.—The three principal rivers of South America are the Orinoco, the Amazon, and the La Plata, which drain the northern, middle, and southern portions of the great plain.

The *Orinoco* (about 1200 miles long) rises in the mountains of Guiana and assumes at first a westerly course, afterwards turning to the northward and eastward, and entering the Atlantic Ocean immediately to the south of the Caribbean Sea. About 130 miles below its source the Orinoco sends off to the southward a branch called the Casiquiari (200 miles in length), which joins the river Negro, a tributary of the Amazon, and thus effects a natural communication (navigable for boats) between the basins of these two great rivers.

The principal tributaries of the Orinoco are the Guaviari, Meta, and Apure (all of which come from the declivities of the Andes), on its left bank; the Ventuari, Caura, and Caroni, on the right. Below the village of Angostura, 280 miles above the mouth of the river, no impediments to its navigation occur; above this its course is occasionally interrupted by rapids, but in general it presents a deep and navigable channel nearly to its source.

The *Amazon* (which in the upper portion of its course is called the Marañon) rises in the small lake of Lauricocha, upon the table-land of Pasco, amidst the highest parts of the Peruvian Andes. Thence it flows in a northerly course until it leaves the mountains, and afterwards crosses the great plain in an easterly direction to the Atlantic Ocean. But the longest branch of the river—the Ucayali—draws its waters from a more southern source, to the west of the plateau of Titicaca. The whole length of the river, by this arm, is little short of 3900 miles, so that it is only inferior to the Mississippi in length of course, and divides with that river the reputation of being the most considerable stream on the globe.

The basin of the Amazon is of immense extent, embracing upwards of two and a half millions of square miles, or nearly three-fourths of the area of Europe. Among its numerous tributaries, the principal are the Napo, Putumayo or Ica, Yapura, and Negro, on the left bank :—the Huallaga, Ucayali, Yavari, Yutay, Yurua, Teffe, Purus, Madera, Tapaja, Xingu, and Tocantins, upon the right. All of these are rivers which in any other part of the globe would be accounted of first-rate magnitude, and the Madera has a course of more than 2000 miles before it joins the Amazon.

Where the Amazon leaves the mountain-region (at the Pongo de Manseriche, about 700 miles below its source), it is 800 yards wide, and thence rapidly increases in breadth and volume of water. During the last 450 miles of its course it is nowhere less than four miles in breadth, and at its mouth the channel is fifty miles across, so that it is rather like a great arm of the sea than a river.

About 100 miles above its mouth the Amazon throws off a branch to the south-eastward, which bears the name of the Taygypura Channel. This branch afterwards turns to the northward, and encircles the large island of Marajo ; where it enters the sea it is called the Rio Para, and is a broad and deep fresh-water estuary.

The Amazon is navigable for large vessels from its mouth to the junction of the Ucayali, more than 2500 miles, and by those of smaller size (drawing not more than 5 or 6 feet of water) to the very foot of the mountains. So great is the volume of water which it brings down, that its freshness is perceptible at a distance of more than 500 miles from the coast.

The *Rio de la Plata* is a broad fresh-water estuary, formed by the junction of the rivers Parana and Uruguay. The Parana flows from the mountains of Brazil, in a south-westerly and southerly direction, and about 760 miles above the sea receives the stream of the Paraguay, which waters a more western portion of the great plain. The length of the Parana, reckoning from its most distant sources to the mouth of the Rio de la Plata, is 2350 miles, and the Paraguay branch alone has a course of 1260 miles. The Uruguay (800 miles long) unites with the Parana on the left bank of the latter river.

Both the Parana and the Paraguay are navigable for vessels of considerable burden to a distance of nearly 1000 miles. The navigation of the Uruguay is interrupted by numerous falls above the last two hundred miles of its course. Some of the smaller affluents of the Paraguay are only divided from the tributaries of the Guapore (one of the principal branches of the Madera river) by a narrow portage of three miles across. The immense and turbid flood which the Rio de la Plata pours into the Atlantic is perceptible at a distance of more than a hundred miles to seaward, and forms a powerful current amidst the waters of the ocean.

(814.) Among the other principal rivers of South America are the *Magdalena* (860 miles), which flows into the Caribbean Sea, and the *Atrato* (300 miles), into the Gulf of Darien. The *Essequibo*, *Demerara*, *Berbice*, *Corentyn*, *Surinam*, and *Maroni*, all cross the plain between the Mountains of Guiana and the Atlantic, and flow into that ocean to the eastward of the mouth of the Orinoco. The *Maranhao*, *Paranahyba*, *San Francisco* (1500 miles), *Grande do Belmonte*, and many others, be-

long to the Atlantic coast, to the east and south of the Amazon. The *Colorado* (600 miles), and the *Negro* (800 miles), flow into the Atlantic to the southward of the Rio de la Plata.

The rivers on the western coast of South America all have short courses : amongst the longest are the *Biobio*, in Chili, about 150 miles, and a few streams of nearly equal length upon the coast to the northward of the Gulf of Guayaquil.

(815.) *Lakes*.—South America has few permanent lakes of any magnitude. The most important is Lake Titicaca (about 3800 square miles), situated on the plateau of that name, at an elevation of 12,847 feet, and surrounded by some of the highest summits of the Andes ; near the shores it is 720 feet in depth. The water of Lake Titicaca is fresh ; a river called the Desaguadero, which leaves its southern extremity, flows into the smaller lake (or marsh) of Aullagas, or Uros, which lies at 490 feet lower level, and the water of which is salt. Several salt-water lakes occur in the plain at the eastern foot of the Chilian Andes, and are the recipients of rivers which have no outlet to the ocean.

Lake Maracaybo (5000 square miles), near the coast of the Caribbean Sea, is connected by a narrow strait with the Gulf of Maracaybo, and has brackish water. The *Lake dos Patos* (about 5000 square miles), on the south-east coast of Brazil, discharges its waters into the sea by a channel called the Rio Grande do Sul, and receives from the south the waters of *Lake Mirim*. Between Lake Mirim and the sea is the smaller lake of *Mangueira*, connected with the ocean by a narrow channel.

(816.) *Islands*.—Towards the southern extremity of this continent are the Falkland Islands, Georgia Island, Tierra del Fuego, and the Patagonian archipelago—the last embracing several large islands which lie off the western shores of Patagonia. The Patagonian archipelago, together with the westernmost portions of Tierra del Fuego, belong to the mountain-system of the Andes.

Upon the west side of South America are Juan Fernandez and a few smaller islets, with the group of the Galapagos Islands.

Juan Fernandez, a small island of volcanic formation, is diversified by mountains, valleys with running streams, and abundant vegetation ; and is famous as the scene of the supposed adventures related in “Robinson Crusoe.” The Galapagos Islands are mountainous, and their surface covered with lava and other volcanic rocks ; the highest part of Albemarle Island (the largest of the group) is 3840 feet in altitude. The Galapagos Islands are crossed by the line of the equator. The Revillagigedo Islands (to the northward, off the coast of Mexico), are also a volcanic group.

(817.) *Climate*.—South America is generally warmer than the northern half of the New World. A much larger proportion of its whole extent is situated within the Torrid Zone than is the case with North America, and the widest

dimensions of the continent are attained within the limits of a few degrees from the equator. Yet the heat experienced even in the hottest countries of the New World is less considerable than that which characterises the intra-tropical regions of Africa and Asia. The influence of latitude is moderated by the adjoining oceans on either hand which narrow the limits of the western continent.

The southern half of the New World exhibits some characteristic differences, in regard to climate, from its northerly division. In North America, the curvature of the monthly isothermals (or, which is the same thing, the difference between the temperature of the eastern and western sides of the continent) increases with the distance from the equator; but in South America the reverse is the case, and the isothermals are more inflected in the torrid than in the temperate zone. This is owing to the fact of all the broader portion of South America being situated within the tropics, while beyond these limits it gradually tapers off as it advances into the southern temperate zone, and becomes more fully exposed to the equalising influences of an oceanic climate. The southern half of the American continent differs also from the northern in the fact of its western coasts being *colder* than its eastern,—a result probably due to the cooling influences of a perpetual current which sets to the northward along the coasts of Chili and Peru, and carries with it the lower temperature of the latitudes in which it originates.

Moisture, as well as heat, is a general characteristic of South American climates. A striking exception to this occurs, however, upon a portion of the Pacific shores of this continent. Along an extensive range of the western coasts of South America (between the parallels of 4° and 28° lat.), hardly any rain falls; but thick mists periodically occur, and diffuse a limited amount of moisture. The Atlantic shores of this continent, however, and the country in general to the eastward of the Andes, experience the greatest abundance of rain. In some localities, the quantity of moisture that is precipitated is surprisingly great, surpassing that of which any other region on the globe supplies experience. At Paramaribo (on the coast of Dutch Guiana), 229 inches of rain are said to fall annually, and at San Luis de Maranhao, on the Brazilian coast, 276 inches (or 23 feet) are said to have been received. This astonishing quantity, again, falls within a brief period, and is confined to particular seasons; here, as in other parts of the torrid zone, as much rain sometimes falling within a few days (or even hours) as in higher latitudes is distributed over the entire year. At Demarara six inches of rain have been collected within 12 hours, and at Cayenne as many as 21 inches within a single day. Hence, as the rainy season is confined to a brief period, the number of clear days is much more considerable than in our temperate climates. Even during the wet season the sun is rarely altogether obscured, and sometimes several days pass without a drop of moisture.

The period of rain varies with the situation relatively to the equator, and other circumstances; in some localities (as in many of the West India Islands and in Guiana), two wet and two dry seasons occur, as the sun alternately passes and repasses the zenith in his progress towards either tropic. In the vast plains of equatorial America, the

most striking changes in the aspect of the natural world accompany the setting-in of the rainy season. During the long preceding drought the ground has become parched, and the thirsty soil opens in wide crevices, while the sun glares with intense radiance through a clear and intensely heated atmosphere. The wild animals, unable to find pasture, are alike tormented by hunger and thirst, and many of them perish. As the sun approaches the equator, the deep blue of the sky gradually becomes of a lighter hue, and clouds begin to appear above the distant horizon. They rise gradually, like a heavy mist, towards the zenith; a distant thunder is heard, the clouds appear to be suddenly burst open, the rain descends in torrents, and the rivers almost immediately begin to rise. In a few days the ground is covered with the finest turf, and the animals find abundant pasture. The huge serpents and other creatures which have lain inactive and torpid during the dry weather are now aroused into full life, and the vast savannahs swarm with innumerable wild animals. As the rising flood overspreads the country, many of these are drowned in the inundation which they are unable to escape, and vast numbers fall victims to the gigantic caymans and water-snakes. With the return of the dry season, the waters retire, and the face of nature gradually resumes its former aspect. On such a magnificent scale of change does Nature work in these regions!

In this continent, as elsewhere, the effect of elevation upon climate is strikingly observed. The high table-lands of Quito and other localities among the Andes enjoy (within the limits of the tropics, and even under the line of the equator), a temperate and equable atmosphere. In these elevated regions, the thermometer scarcely varies throughout the year, and the climate resembles a perpetual spring. The air is here pure and calm, while storms burst upon the lesser heights of the mountain-side, or rage in the valleys below. Meanwhile, the low plains at the mountains' base are intensely hot, and experience in their widest extremes the alternations of excessive drought or moisture.

(818.) *Natural Productions: Minerals.*—In regard to mineral productions, South America is characteristically distinguished by the abundance of the precious metals. Its possession of these glittering sources of wealth constituted the prime attraction to most of the early adventurers in the New World. During the century and a half that succeeded the discoveries of Columbus, the mines of Peru and Brazil (with those of Mexico in the northern half of the American continent) supplied by far the larger portion of the precious metals which found a place in the markets of the world. Within a very recent period, the gold-fields of California and Australia have far surpassed in amount of produce those of Peru, — or, indeed, of any other countries on the globe. But the gold and silver mines of South America—though now comparatively neglected, owing to political troubles and other causes of a social kind,—are still unexhausted.

The *diamond* is found in Brazil, and other precious stones in New Granada, Peru, Chili, and elsewhere. *Gold* is found in Brazil, New Granada, Bolivia, Chili, La Plata, and in general in all the countries situated along the great chain of the Andes.

Silver is abundant in Peru, Bolivia, New Granada, Chili, and La Plata. *Platinum* occurs in Brazil; *quicksilver*, in Peru.

Copper, and also *lead*, are found in Chili, Peru, Brazil, and La Plata. *Copper* likewise in Brazil; *tin*, in Peru and Chili; *zinc*, in Chili.

Iron occurs abundantly in Brazil, New Granada, Bolivia, Chili, and La Plata. There are *coal-fields* of considerable extent in the southern provinces of Chili; and coal also occurs in New Granada. *Salt* abounds in the interior plains of La Plata, as well as in many parts of Bolivia.

(819.) *Vegetation*.—In no part of the world is the vegetable kingdom more varied and luxuriant than in the tropical regions of South America. Among the most characteristic productions of the forest are the mahogany-tree, log-wood, Brazil wood, with numerous other hard woods; a vast variety of palms; and the different species of cinchona or Peruvian bark. The oak and other forest-trees, with various pines, abound upon the higher declivities of the mountains, and towards the southern limit of the continent.

Up to elevations of between three and five thousand feet, cassava, cacao, maize, plantain, indigo, sugar, cotton, and coffee, are found in abundance over all the warmer regions of South America. Cotton and coffee grow to much greater heights, and the sugar-cane is successfully cultivated in the valley of Quito, at an altitude of 9000 feet above the sea. Maize grows upon the declivities of the Andes to heights of 12,000 feet.

In their dense forests—the giant trees interlaced with huge *lianas*, or creepers (themselves often as thick as the cable of a man-of-war),—their rich and luxuriant grasses, their various fruits and flowers (the latter gorgeous in colours of every hue), the plains of tropical America surpass, perhaps, any other region of the earth. The *Victoria Regia*, among the largest flowers in the world, and the giant of the lily tribe, is found floating upon the rivers of Guiana.

(820.) *Zoology*.—The remarks made under this head in reference to the northern division of the New World apply, for the most part, to South America also. The largest quadrupeds native to South America are the llama and the tapir: the former of these is confined to the declivities of the Andes, where it is used as a beast of burden, and supplies some of the purposes of the camel of the Old World, though very inferior to that animal in size, strength, and intelligence. The tapir (an animal of feeble powers, about the size of a small cow, and distinguished by the peculiar form of its snout, which is turned inwards) belongs to the order of pachydermatous quadrupeds.

The sloth, ant-eater, and armadillo (all belonging to the order of *edentata*, or toothless animals) are natives of South America. Monkeys are exceedingly numerous all over this portion of the continent, especially in the forests of Brazil. These, however, are different in species from the monkeys of the eastern hemisphere; they are of smaller size, and all possess tails, mostly prehensile. None of the apes of the New World make the same approach to the human form which is found in the chimpanzee and ourang of Africa and Asia. Towards the close of day the howling monkeys of Brazil make the woods resound with the most frightful cries; but they are neither of large size nor of formidable powers. The opossums represent, in this division of the globe, the marsupial family, altogether wanting in the continents of the Old World.

The chinchilla, a small animal which yields a delicate and beautiful fur, is confined to the southern portions of the Andes. Bats are very numerous in South America,—more so than in any other part of the world: among them is the large vampyre-bat, which frequently sucks the blood of horses and mules during the night. All of them differ in species from the bats of the eastern continent.

Huge serpents and other reptiles abound in the moist and annually inundated plains of South America (Art. 817). The combined heat and moisture which prevail here encourage in the fullest degree the development of reptile, and also insect life. The varieties of the insect-tribes are endless, and their habits destructive almost beyond parallel elsewhere: musquitoes, chigoes, centipedes, ants of gigantic size, with many others, are the torment alike of man and beast. Nothing is more splendid or sparkling than the insect world of South America: the inexhaustible variety of species, the brilliancy of their colours, and the size of their bodies, make the beetles, butterflies, and others of their kind, among the most beautiful ornaments of those regions, and the luxuriance of surrounding life causes the greatest delight to the astonished eyes of the naturalist. But to mankind in general it is far otherwise: in Guiana the ants migrate in dense squadrons, destroying everything that falls in their way, and sometimes for a time take absolute possession of the dwellings, from which they expel every other living creature. In this, however, as in numberless similar instances, we have an example of the boundless wisdom and beneficence of Providence, since the destructive propensities implanted in the various members of the animal kingdom, by causing one species to prey on another, tend to keep down the numbers of the whole, and so prevent the earth from being entirely over-run by them.

The *population* of South America has been referred to in Art. 719. Unlike the northern half of the New World, South America exhibits a preponderance of the Indian and mixed races. The pure white population does not amount to more than a third of the total number of its inhabitants.

TABLE OF SOUTH AMERICAN MOUNTAINS, WITH THEIR ELEVATIONS.

The ANDES:

Columbian Andes (New Granada and Equador); average height from 11,000 to 12,000 feet:—

	Height of sum- mits in feet.			
Tolima (N. lat. 4° 48')	-	-	-	18,315
Pass of Quindiu	-	-	-	12,500
Cayambe (S. lat. 0° 4'), v.	-	-	-	19,635
Antisana (S. lat. 0° 30'), v.	-	-	-	19,137
Cotopaxi (S. lat. 0° 39'), v.	-	-	-	18,675
Pichincha	-	-	-	15,924
Chimborazo (S. lat. 1° 22')	-	-	-	21,415
Pass of Assuay	-	-	-	15,500

ANDES—continued.

**Height of
summits
in feet**

Peruvian Andes, average 12,000 feet:—

Vilcanota	-	-	-	-	-	-	-	17,500
Arequipa, v.	-	-	-	-	-	-	-	20,100

Bolivian Andes, from 12,000 to 14,000 feet:—

Sorata, or Ancohuma (s. lat. 15° 52')	-	-	-	-	-	-	21,200
Illimani (s. lat. 16° 37')	-	-	-	-	-	-	21,100
Sabana (s. lat. 18° 7')	-	-	-	-	-	-	22,100
Gualatieri (s. lat. 18° 25') V.	-	-	-	-	-	-	21,500
Lirima (s. lat. 19° 47')	-	-	-	-	-	-	23,000
Cerro of Potosi	-	-	-	-	-	-	16,100

Chilian Andes; average 12,000 feet:—

Aconcagua (s. lat. 32° 38')	-	-	-	-	-	-	23,900
Pass of El-Portillo	-	-	-	-	-	-	14,300
Tupungato	-	-	-	-	-	-	15,000
Villarica, v.	-	-	-	-	-	-	16,000

Patagonian Andes, 2000 to 3000 feet:—

Highest summits about	-	-	-	-	-	-	9,000
Mt. Sarmiento (Tierra del Fuego)	-	-	-	-	-	-	6,900

Mountains of Guiana; average height from 4000 to 5000 feet:—

Roraima (N. lat. 5° 20')	-	-	-	-	-	-	7,500
Maravaca (N. lat. 3° 40'; w. long. 65° 47') about	-	-	-	-	-	-	11,000
Duida, or La Esmeralda (N. lat. 3° 17'; w. long. 60° 8')	-	-	-	-	-	-	6,200

Mountains of Brazil, from 1500 to 2000 feet:—

Itambe	-	-	-	-	-	-	5,900
Itacolumi (s. lat. 20° 30'; w. long. 48° 49')	-	-	-	-	-	-	5,700

CHAPTER XVI

NATIONAL DIVISIONS OF SOUTH AMERICA

(821.) **NEARLY** the whole of South America was divided, until within the last forty years, between the possession of Spain and Portugal. The former power possessed great part of the northern, and almost all the western coasts, with large tracts in the interior; while the more eastward part of the continent, embracing the present empire of Brazil, belonged to Portugal. But these countries successively threw off the yoke of their rulers in the course of the first quarter of the present century, and succeeded, after a long struggle, in establishing their independence.

The countries embraced within South America are Brazil, Venezuela, New Granada, Ecuador, Peru, Bolivia, Chili, and La Plata; together with the colonies of British, Dutch, and French Guiana, upon the north-east coast, and Patagonia, at the southern extremity of the continent. Brazil constitutes an empire, but all the other South American States are under republican forms of government.

Brazil takes the first rank among the countries of South America, alike in regard to extent, population, and industrial resources.

SECTION I.—BRAZIL.

(822.) *Boundaries and Extent.* — Brazil is bounded on the east and north-east by the Atlantic Ocean; on the north by Guiana and Venezuela; on the west by Peru and Bolivia; on the south-west and south by the provinces of La Plata, and the Banda Orientale. It is a country of immense extent, and comprises nearly half of the South American continent, having an area which exceeds 3,000,000 square miles, with a coast-line of 3,700 miles in length.

(823.) *Natural Features, Climate, &c.* — Brazil includes

nearly the whole of the immense plains watered by the Amazon and its tributaries, together with a portion of the which belong to the basins of the Parana and the Paraguay. The central and eastern parts of the country form a table-land of moderate elevation, crossed by hills, which in general only rise to a trifling height above its level (Art. 810). The coasts are mostly bordered by extensive plains, and these as well as the declivities of the adjacent hills, are clothed with dense forests.

The hydrography of Brazil is on a splendid scale, and includes many of the largest rivers belonging to this portion of the American continent. The climate varies considerably in its different regions, but is throughout warm. The plains which lie within the basin of the Amazon are characterised by excessive heat and abundant moisture, and the tracts along the coast partake of this character. The table-land has a temperature which is several degrees lower, and also a much less quantity of rain. In the most elevated parts of the table-land, slight frosts are occasionally experienced in winter. In the southern provinces (which are within the limits of the temperate zone) the heat is moderate, the rains more equally distributed, and the climate altogether more equable, settled, and regular, than further to the northward.

The productions of Brazil are very varied; gold, silver, and iron, with the diamond, topaz, and other precious stones, form a portion of its mineral wealth. No country in the world is so abundant in diamonds, which are found chiefly within a tract adjacent to the head-waters of the Rio San Francisco and the Rio Grande do Belmonte. Gold is worked in the same neighbourhood, and also in the district of Matto Grosso, to the westward of the upper Paraguay.

But the vegetable produce of Brazil is of infinitely greater value, and embraces nearly all the plants and trees found within the limits of the western continent. The forests abound in the most valuable timber, including rosewood, mahogany, fustic, and a great number of dye-woods, as well as others adapted for ship-building and similar purposes. Palms, in infinite variety, likewise abound, and add their grace of form to the rich and splendid foliage of the Brazilian forest.

In the animal kingdom Brazil exhibits a variety equally great, and contains within itself all the forms of life peculiar to the warmer latitudes of the western continent. Birds and insects are particularly numerous, and the latter are especially destructive in their habits (Art. 820).

(824.) *Inhabitants.*—The population of Brazil amounted, in 1856, to 7,677,800. Nearly half the number are negroes, in a condition of slavery. The whites are chiefly of Portuguese descent, and are fewer than a sixth part of the whole. The remainder are mixed races, with some tribes of native Indians. Some of the latter are of barbarous and ferocious habits; others have stationary pursuits, and are engaged in the cultivation of the soil.

The industry of Brazil is chiefly agricultural, and its resources in this respect are capable of almost boundless extension. Coffee, sugar, and cotton, are the staples of its wealth, and are exported to a large extent ; rice, cocoa, maize, and other grains, are also extensively grown, together with tobacco, manioc, yams, bananas, lemons, oranges, figs, and numerous other fruits and esculent plants. The manioc, or cassava-plant, is a native of Brazil, and is more extensively used there than any other article of food. Horned cattle and horses abound in the vast plains of the interior, and their hides and horns furnish valuable articles of export. The labour of cultivating the soil is universally performed by the negroes, who are also engaged in working the mines.

There are few manufactures in Brazil, but a large amount of trade is carried on with foreign countries, and especially with Great Britain. Indeed, the foreign commerce of Brazil is larger than that of any other country in South America. The exports are principally coffee, cotton, and sugar ; besides which are hides, tallow, jerked beef, horns, cabinet and dye-woods, gums and drugs, together with gold and diamonds. The coffee and other produce are supplied extensively to Britain, as well as to other European countries. The imports are chiefly the manufactured cotton and other goods of our own country, with wines and dried fruits, from France ; glass, beer, linen, and paper, from Holland and Germany ; iron and copper utensils, sailcloth, and ropes, from Russia and Sweden ; wine and brandy, from Portugal ; and wheat, flour, leather, oil, tar, ashes, and soap, from the United States. The coasting trade is very active, but the internal traffic is impeded by the want of good roads. All goods have to be transported either on the backs of mules or horses, and few parts of the country are passable for carriages. Railways, however, are in process of construction upon a comprehensive scale.

The slave-trade was formerly carried on from Brazil to a large extent. But the government of that country has taken vigorous measures for its suppression within recent years, and the iniquitous traffic appears to be now almost (if not wholly) extinct.

(824a.) *National Divisions.*—Brazil is divided into twenty provinces, most of which are larger than many European kingdoms. But those in the interior are little known, and large portions of them have rarely been even visited by Europeans.

The town of *Rio Janeiro*, the capital of Brazil, and the principal seat of its foreign trade, is situated on the coast, upon the west side of the entrance to a beautiful bay, which forms one of the finest natural harbours in the world. It has nearly 400,000 inhabitants, and is the largest city in South America. *Bahia*, on the coast to the northward, ranks next in commercial importance, and has 160,000 inhabitants.

Pernambuco, still further to the north, and also a place of great trade, consists of the two nearly adjoining towns of Recife and Olinda, the former of which has 60,000, and the latter 8000 inhabitants. *Maranhao* (30,000 inhabitants), and *Para* (24,000 inhabitants), both on the northern coast of the empire, are also places of great trade. Para lies on the eastern side of a broad estuary called the Rio do Para, which is about seven miles wide opposite the town.

San Paulo (230 miles w. s. of Rio Janeiro), situated on the declivity of the interior table-land, is an important town, with 40,000 inhabitants ;

twelve miles distant is the harbour of *Santos*, which forms its port, and carries on great trade.

The towns in the interior of Brazil are mostly of small size : the two most considerable are *Villa Rica*, to the northward of Rio Janeiro (in the province of Minas Geraes), and *Villa Bella* (in the province of Matto Grosso), situated on the banks of the river Guapore, one of the tributaries of the Madera. One hundred and forty miles to the northward of the former is *Tejuco*, the capital of the diamond district.

(825.) Brazil was formerly a Portuguese possession, but became detached from the crown of Portugal in 1822, since which time it has constituted an independent country. The general government constitutes an hereditary and constitutional monarchy, the Emperor being invested with the executive authority. The legislative power is shared between the Emperor and two assemblies—a Senate and a Chamber of Deputies, the first appointed by the sovereign, and the latter chosen by the people. Each province has also its local legislature. Brazil therefore presents the example of a federative empire, administered in a spirit of freedom, and attended by the best results in reference to the commercial, social, and moral advancement of its population. The established religion is the Roman Catholic.

SECTION II.—GUIANA.

(826.) The name of Guiana was formerly applied to all that vast tract of country which lies between the lower Amazon and the middle course of the Orinoco. But by far the greater part of this is now included within the territories of Brazil and Venezuela, and it is only to those portions of Guiana which belong to France, Holland, and Great Britain, that the name is now given. These territories occupy the coast of South America between the limits of Brazil and Venezuela, from the river Oyapok (long. $51^{\circ} 30'$) on the east, to the mouth of the Orinoco on the west, and stretch inland as far as the Sierra Acaray, or system of the Parime Mountains. French Guiana is the more eastward of the three territories, Dutch Guiana lies in the middle, and British Guiana is the most westerly tract.

The coasts of Guiana are low and flat, and extensive mud-banks lie at a short distance off the land : the water over these banks is only a few feet in depth, so that vessels of large size are unable to come close in shore. A rich alluvial soil extends for a considerable distance inland,—to between forty and seventy miles from the coast, in the British portion of the territory. The country then rises by successive terraces towards the distant mountains of the interior ; the terraces or platforms being formed by ranges of hills which cross the country in the direction of east and west, with wide plains between. Nearly all the larger rivers of Guiana have their courses in a northerly direction, and form cataracts where they break through the mountain-chains ; these cataracts

indicate the levels of the successive plateaus, as they decline from the interior towards the sea-coast.

The climate of Guiana is strictly tropical ; the heat is at all times great, but the influence of the trade-winds, and the frequent rains, render the air less oppressive than it would otherwise be. There are two rainy seasons, and the quantity of rain is very considerable (Art. 817).

In British Guiana the long rainy season sets in about the middle of April, and lasts till August ; from the latter month till November constitutes the long dry season. In December, showers again begin to fall, and the month of January is uniformly rainy : this forms the shorter season of rains, and the months of February and March are again dry. The climate of Guiana is more adapted to European constitutions than that of most places in the West Indies, and is perhaps quite as healthy as that of any country situated within the tropics. Thunder-storms occur only during the rainy seasons, and are violent, but rarely do any damage. Slight shocks of earthquake are sometimes felt. The destructive hurricanes of the West Indian islands are here unknown.

The soil of Guiana is for the most part gifted with luxuriant fertility, and both vegetable and animal life is developed in the greatest abundance in all these regions (Art. 820). In all three of the colonies, a large proportion of the population consists of negroes, who perform the various labours of agriculture. There are also many native Indian tribes, who are in general more civilised than those dwelling in the adjacent parts of the continent : they cultivate maize, with cassava and other roots, and some of them visit the British settlements, and work for daily wages in the wood-cutting establishments.

The staple productions of all these territories are sugar, coffee, and cotton ; to which are added, in French Guiana, pepper, cloves, cinnamon, and nutmegs. Indian corn and rice are cultivated, with manioc, yams, sweet potatoes, and arrow-root. The chief fruits are the banana, pine-apple, and cocoa or chocolate tree (*theobroma cacao*) ; the cabbage-tree grows wild. Many of the trees furnish timber valuable for building, or for ornamental furniture and other purposes.

1.

(827.) FRENCH GUIANA, or Cayenne (as it is sometimes called), extends between the river Oyapok on the east and the Maroni on the west. It embraces an area of 27,560 square miles, and has about 22,000 inhabitants (three-fourths of them negroes), besides a much more numerous population of the native Indian race. The chief town of the colony is *Cayenne*, situated on an island which adjoins the coast. Cayenne has about 5000 inhabitants, and carries on nearly the whole trade of the province.

French Guiana is under the jurisdiction of a governor, with a council appointed by the inhabitants. This country has belonged to France, with a few short interruptions, since the year 1604. It is used as a place of transport for political offenders.

2.

(828) DUTCH GUIANA, or Surinam, extends between the rivers Maroni

and Corentyn, the latter of which divides it from the British territory. The river Surinam, the name of which is sometimes applied to the eastern colony, enters the sea about midway between the eastern and western borders of the territory. Dutch Guiana has an area of 38,500 square miles, with a population of about 60,000—exclusive of Indians and maroons. The great majority are negroes; the rest chiefly free coloured people and whites,—the latter principally Dutch, French, and Jews.

The capital of Dutch Guiana is *Paramaribo*, situated on the river Surinam, a short distance above its mouth. Paramaribo carries on the chief trade of the colony, and has 20,000 inhabitants.

This territory has belonged to Holland ever since the close of the sixteenth century, and is under the administration of a governor-general appointed by the Dutch government.

3.

(829.) **BRITISH GUIANA** extends along the coast from the river Corentyn to the southern entrance of the Orinoco—length of 300 miles, and stretches into the interior to a distance of more than four hundred miles. The area of the province is at least equal to 76,000 square miles.

The chains of mountains by which British Guiana is crossed do not generally exceed from one to two thousand feet above the sea; but the Sierra Pacaraima, to the west of the middle course of the Essequibo, rises to upwards of 4000 feet. Roraima, the principal summit in this range, reaches nearly double that altitude.

The most important features of the colony are its numerous rivers, the principal of which—the Essequibo, the Demerara, the Berbice, and the Corentyn (the last-mentioned flowing along the eastern frontier)—traverse the country from south to north. The longest of these is the Essequibo, which has a length of 600 miles, and forms a wide estuary at its mouth: about midway in its course, it receives the river Rupunoony, and lower down the Siparoony and the Massaroony, all three from the westward. The Demerara has a length of 200 miles, the Berbice of 360, and the Corentyn of about 470. All these rivers are navigable by boat, excepting where interrupted by the cataracts formed in their passage through the mountain-chains; they afford the means of extensive and easy communication between the coast and the interior.*

In soil, climate, and variety of native produce, British Guiana is not inferior to any tropical country on the face of the globe.

* The Essequibo is brought, through its tributary streams, into near communication with the basin of the Amazon. The small lake of Amacc (lat. $3^{\circ} 30'$ N., long. $59^{\circ} 20'$ W.) sends a stream to the river Branco, or Parima, which joins the Negro, one of the chief tributaries of the Amazon: in the wet season the lake inundates the adjacent low country, and part of its waters then flow into the river Rupunoony (the principal tributary of the Essequibo), which runs at a distance of only a few miles to the eastward of its basin.

The population of the colony (exclusive of the native Indians) amounts to about 163,000 persons, nearly five-sixths of them negroes. The native Indian population is not supposed to exceed 7000. Many labourers have within recent years been deported hither from the East Indies, Madeira, St. Helena, and other countries, for the purpose of assisting in the culture of the plantations. The produce of sugar is very considerable; coffee and cotton, especially the former, are also largely grown, and tobacco, indigo, and ginger to a less extent. These productions furnish the staple exports of the colony, and British manufactures are imported in return.

The settlements are most numerous along the banks of the Demerara and the Berbice, as well as on the coast between those rivers. On the Essequibo and the small river Pomaroon (to the westward of the former), there are some plantations, but they are few in number, and of small size; upon the Corentyn the settlements have rapidly increased both in number and extent. But nearly all the plantations are at present confined to the neighbourhood of the coast, and the inland tracts are comparatively unexplored.

British Guiana is divided into the three counties of Essequibo, Demerara, and Berbice. The capital of the colony, and the chief seat of its trade, is *Georgetown* (formerly called Stabroek), on the river Demerara, a short distance above its mouth. Georgetown has 25,000 inhabitants. *New Amsterdam*, on the river Berbice, not far from its mouth, has about one-fifth of that number. A penal settlement has been formed, within a recent period, on the river Massaroony, near its junction with the Essequibo.

British Guiana was formerly included within the possessions of Holland, the Dutch having formed settlements on the river Pomaroon as early as 1580, whence they spread their authority over the adjacent tracts to the eastward. During the war towards the close of the last century, the country more than once changed hands between the Dutch and the English, and was finally settled in the possession of Britain in the year 1803. Guiana is under the administration of a governor, appointed by the British Crown, and assisted by a colonial assembly or parliament.

SECTION III. — VENEZUELA, NEW GRANADA, AND ECUADOR.

(830.) *Boundaries and Extent.* — The three States of Venezuela, New Granada, and Ecuador, are comprehended under the general name of Columbia.

VENEZUELA, the most easterly, extends in the direction of north and south between the shores of the Caribbean Sea and the chain of the Parime Mountains; upon the east it is bounded by the territory of British Guiana, and on the west by the republic of New Granada. Venezuela comprises an area of 427,000 square miles, and had, in 1851, a population of 1,356,000.

NEW GRANADA stretches from the coast of the Caribbean Sea and the Gulf of Darien as far southward as the line of the equator and from the Pacific Ocean on the west to the

upper course of the river Orinoco, on the east. It embraces a portion of the shores both of the Atlantic and Pacific Oceans, and includes the narrowest portion of the Isthmus of Panama. New Granada has an area of 522,000 square miles, and had (in 1853) 2,363,000 inhabitants.

ECUADOR extends along the coast of the Pacific from the parallel of $1^{\circ} 40'$ N. latitude to that of $5^{\circ} 5'$ S. latitude, and stretches inland as far as the meridian of 70° (W. of Greenwich). Its southern frontier is marked by the upper course of the Amazon, and its northern by the river Yapura, a tributary of that river. Ecuador comprehends an area of 285,000 square miles, and a population of 987,000.

(831.) *Natural Features, Productions, &c.* — Venezuela embraces the larger portion of the llanos, or plains watered by the river Orinoco (Art. 811), as well as the north-eastern extremity of the Andes, and the northern declivities of the Parime Mountains. The narrow ridge called the Mountain of Venezuela, which stretches along the shores of the Caribbean Sea, is entirely included within this State.

New Granada includes the upper portion of the llanos of the Orinoco, as well as the most northerly part of the Andes, which are here divided into three nearly parallel ranges of mountains, with high *paramos* or table-lands occupying their summits. The low country along the Pacific is covered with a dense forest, and is rendered unhealthy by its moisture and intense heat. The eastern part of the Isthmus of Panama is wooded and fertile, but (in its natural state) unhealthy: the western part is more open, and contains extensive savannahs. It is less unhealthy than the more eastern portion.

The State of Ecuador includes the highest portions of the Columbian Andes, together with part of the extensive plains which stretch from their base towards the banks of the Amazon, and a hilly region lying between the Andes and the waters of the Pacific. In the high tracts of the mountain-region, the climate resembles an almost perpetual spring, while the low plains suffer from excess both of moisture and of heat (Art. 817).

The countries embraced within Columbia possess many features in common, and for the most part resemble each other in their natural productions. New Granada is richer than either of the others in mineral wealth, and contains gold, platinum, and silver, as well as iron, copper, lead, and other ores. The agricultural produce of this part of America is particularly rich and varied, and includes coffee, cocoa, cotton, to-

bacco, indigo, sugar, together with balsams, gums, and numerous valuable trees, fruits, and other plants native to tropical regions. The tree which supplies the cinchona bark is abundant in the forests within the mountainous portions of Ecuador. There are large herds of cattle in all the States, and their hides supply an important article of export.

(832.) *Inhabitants.*—These States are all very thinly inhabited. The population consists of three classes—the whites, who are almost wholly of Spanish descent; the Indians; and the mixed races, or mestizos. The latter are everywhere the most numerous, and the whites constitute little more than a fourth of the total number. There are a few Negroes in each of the States, but their number is diminishing; they are fewer in Ecuador than elsewhere.

The Indians in some parts of Ecuador are devoted to agricultural pursuits, and cultivate their fields with care. In the mountain-region they apply themselves to the weaving of coarse woollen and cotton stuffs. Those who inhabit the great plains live chiefly by hunting and fishing, and along the coast many Indian families gain a subsistence by fishing and making salt.

There are few manufactures in either Venezuela or New Granada. Coarse cotton and woollen cloths are made in Ecuador, which country also possesses numerous tanneries. But the chief supply of manufactured goods is derived from abroad (principally from Great Britain), in exchange for articles of raw produce.

The principal articles of export from this part of America are cocoa, coffee, indigo, tobacco, cotton, hides, and cattle,—to which must be added, from Venezuela, sugar,—and from New Granada, gold and other metals to a limited extent. The larger portion of the foreign trade is carried on with Great Britain.

(833.) *National Divisions, Towns.*—Venezuela is divided into thirteen provinces. Its principal towns are Caracas, Cumana, Valencia, and Maracaybo.

Caracas, the capital of Venezuela, lies a short distance from the shores of the Caribbean Sea, upon the inland side of a narrow mountain ridge. It has 50,000 inhabitants, and possesses considerable trade, but has frequently suffered from earthquakes. *La Guayra* (4000 inhabitants), the port of Caracas, has a bad harbour, and is unhealthily situated.

Cumana (10,000 inhabitants) lies on the coast to the eastward of the capital, in an excellent situation for trade, but is less important than formerly.—*Barcelona* (15,000 inhabitants), near the coast to the south-westward, has a considerable export trade, but is extremely unhealthy. The island of *Margarita*, to the northward of Cumana, was formerly celebrated for its pearl fishery: it contains 15,000 inhabitants.

Valencia, to the s. w. of Caracas, is an inland town, with 15,000 inhabitants; the produce of the fertile valleys in its neighbourhood is exported through *Puerto Cabello*, a sea-port town, with a good harbour and 7000 inhabitants.

Maracaybo, with 20,000 inhabitants, is a fine town upon the west

side of the strait which connects the lake of that name with the Gulf of Venezuela.

The other towns of Venezuela are all of small size. *Angostura*, though with only 8000 inhabitants, is the principal place in the valley of the Orinoco, and exports cotton, cattle, and other produce. It is situated upon the south bank of the river, at a distance of 240 miles above its mouth. The fine country in the midst of which it lies contains only a few agricultural settlements, which are confined to the immediate banks of the Orinoco, and its tributary the Caroni.

(834.) New Granada contains five departments. Its capital is the city of *Santa Fé de Bogotá* (30,000 inhabitants), which lies on a high plateau of the eastern Andes, at an elevation of 8650 feet above the sea. It is regularly built, but has been repeatedly injured by earthquakes. In its neighbourhood is the fine cataract of Tequendama, formed by the river Bogotá, which, after flowing through a deep ravine, suddenly precipitates itself to a depth of 900 feet.

Cartagena (10,000 inhabitants), the principal sea-port of New Granada, lies on the shores of the Caribbean Sea, to the s.w. of the river Magdalena. It has an excellent harbour, but is very unhealthy during the rainy season. The exports are chiefly specie and bullion.—*Savannah*, at the mouth of the Magdalena, and *Santa Maria*, some distance to the eastward, are both places of some trade.

The town of *Porto Bello*, upon the north side of the Isthmus of Panama, has a fine natural harbour, and is well situated for trade, but its climate is exceedingly unhealthy. To the westward, on the shore of Limon Bay, and at the Atlantic terminus of the Panama railway, is the rising settlement of *Aspinwall*, founded by the Americans a few years since. *Chagres*, in its neighbourhood, is at the mouth of the little river of that name. From Aspinwall, the line of the Panama railway (now extensively used as a means of transit between the opposite shores of the two great oceans) crosses the isthmus to the town of Panama, on the Pacific coast. *Panama* has about 10,000 inhabitants.

Popayan, an inland town in the southern part of New Granada, near the source of the river Cauca, has 7000 inhabitants.

(835.) Ecuador is divided into three departments. The capital of the republic is *Quito* (70,000 inhabitants), a well-built city, lying at an altitude of 9600 feet above the sea, upon a high plateau of the Andes. Quito is nearly under the line of the equator: the plain on which it stands is terminated on either hand by stupendous mountains, the snow-capped summits of which are visible from the city.—*Riobamba*, to the south of Quito, is a large town in the interior, with 20,000 inhabitants.

Guayaquil (22,000 inhabitants), the principal sea-port of Ecuador, lies at the head of the fine gulf to which it gives name.—*Cuenca*, an inland town, is situated to the south-eastward of Guayaquil.

The Galapagos islands (Art. 816) belong to the State of Ecuador. A settlement has been formed upon the island of Charles, one of the group, but the rest are uninhabited.

SECTION IV. — PERU.

(836.) *Boundaries and Extent.*—Peru is a large country

upon the western side of South America. On the north it is bounded by the State of Ecuador, on the east by Brazil and Bolivia, on the south-west and south by the Pacific Ocean. The whole length of Peru, along the line of the Pacific, exceeds fifteen hundred miles, and its average breadth is between four and five hundred ; but towards its southern extremity the country is considerably narrowed in dimensions. The area of Peru is estimated to be nearly 500,000 square miles.

(837.) *Natural Features, Climate, &c.*—Peru embraces three distinct regions—the mountains, the narrow plain between the Andes and the ocean, and the great plains which stretch from the eastward slope of the Andes into the interior of the continent.

1. The mountain-region covers nearly half the entire territory, and includes some of the highest portions of the Andes. The numerous valleys that intersect the mountains are fertile, and the eastern half of this region is covered with luxuriant vegetation. The western half is less productive, and the sides of the mountains generally bare.

2. The strip of land which lies along the coast of the Pacific, between the Andes and the sea, varies in breadth from three to twenty leagues. This tract is throughout a sandy plain, intersected by chains of hillocks, which cross it from east to west. Numerous short streams pass through this line of coast, flowing from the western base of the Andes into the sea, but their waters are frequently dried up during the hot season. It is only in the immediate valleys of these rivers that the soil is capable of cultivation,—the greater part of the plain being destitute of moisture, and absolutely sterile (Art. 812).

Besides the columns of loose sand which are found along the Peruvian coast, there are moving sand-hills, or *medanos*, which are continually changing their locality, and travel forward under the influence of the wind. The *medanos* are hillock-like elevations of sand, some of them with a firm, and others a loose, base. The former, which are formed by the accumulation of the sand upon the blocks of rock scattered over the plain, are always crescent-shaped, and are from 10 to 20 feet high, with an acute crest. The inner side is perpendicular, and the outer side forms an angle with a steep inclination downwards. When driven by violent winds, the *medanos* pass rapidly over the plains. The smaller and lighter ones move quickly forward, but those of larger size soon overtake and crush them, whilst they are themselves shivered by the collision. These *medanos* assume all sorts of extraordinary figures, and sometimes move along the plain in rows forming the most intricate labyrinths, so that persons who have had the greatest experience of the coast are apt to lose their way when they encounter them. The small hillock-chains by which the coast is crossed from east to west arrest the progress of the wandering *medanos* ; otherwise the fertile river-valleys would soon be converted from oases into sand-flats equally barren as the surrounding waste.

3. The plains to the eastward of the Andes embrace more than a third part of the surface of Peru. They are without cultivation, but the greater portion are covered with abundant forests, alternating in some cases with extensive savannahs or grassy plains. This region belongs to the basin of the Amazon, and is watered by rivers which join its upper course.

(838.) The climate of the mountain-region is cold, owing to its great elevation excepting in the deeper valleys by which it is intersected. Both here, and in the eastern plain, the rains are abundant during six months of the year. But along the whole line of the Peruvian coast no rain ever falls, though dense mists—or *garuas*—are of frequent occurrence. The air in this region is uniformly hot, but less so during the period between May and October (or the winter of the southern hemisphere) than in the opposite portion of the year.

During the dry or summer season the movements in the desert are in full activity, and the parched sand yields to the slightest pressure of the atmosphere. In the colder season its weight is increased by the absorption of moisture, and the hillocks acquire more solidity. In November, summer commences, and during the ensuing months everything exposed to the influence of the sun is parched up by the intensely heated rays that are reflected back from the sandy surface of the desert. No plant takes root in the burning soil, and no animal finds food on this arid and lifeless surface.

But the scene changes in May. A thin veil of mist then overspreads the sea and the shore; in the following months it increases, and it is only in October that it begins to disperse. It is heaviest in August and September, when it lies for weeks immovable on the earth; but at the beginning and towards the close of the winter season it remains only during the day time, and disperses towards evening. This mist does not resolve itself into what may be properly termed rain, but becomes a fine minute precipitate which the natives call *garua*—a kind of thick fog, or drizzling mist. Occasionally the *garua* falls in large drops, but even then there is this distinction between it and rain, that it does not descend from clouds in the higher regions of the atmosphere, but is formed in the lower strata of the air by the union of small bubbles of mist. The *garua* is only known within a few miles of the sea; beyond the sandy plain, within the mountain-region, heavy rains occur, and the boundary between the rain and the mist may be defined with mathematical precision. In the oases of the river-valleys, the *garuas* are much heavier than in the adjacent wastes. But in some parts of Northern Peru they are so scanty that a sheet of paper left for a whole night in the open air does not exhibit the smallest trace of humidity.

(839.) *Inhabitants.*—The population of Peru is upwards of 2,200,000—a small number for so extensive a country. More than two-thirds are Indians, and the remainder principally Negroes and mixed races, the whites scarcely amounting to more than a tenth part of the whole.

The Indians of Peru are the descendants of races who had attained considerable civilisation prior to the discovery of the New World, and some

of them are at present the most industrious agriculturists, manufacturers, and fishermen, in the country. Both the Indians and the mixed races are a good deal employed as porters, in carrying burdens across the mountain-roads, and in the lading and unlading of ships. The natives on the coast are expert mariners, and manage their balsas, or light boats, made of inflated skins, with great dexterity. The whites are all of Spanish descent. There are some Negroes among the population, but they are very few in number.

The natural productions of Peru are rich and varied, and constitute the chief objects of such industry as the country possesses. The mountain-region abounds in minerals, and there are a great number of silver mines; but their produce is now much less than formerly. Gold occurs to a limited extent, and there are quicksilver mines which were formerly very productive. Copper, iron, lead, and brimstone, are found. Nitrate of soda is collected abundantly in the coast-plain, and constitutes an important article of traffic.

The vegetable produce is equally varied. European grains and fruits, as well as maize and rice, flourish in the more temperate districts, while the warmer valleys supply abundant crops of tropical plants, among which are found the sugar-cane and the cocoa-plant. Cinchona-bark, copaiba-balsam, and copal, are collected from the forests in the eastern part of the country; wax is procured in abundance, and indigo grows spontaneously. Vanilla, sarsaparilla, and caoutchouc, together with numerous gums and resins, are also obtained from the same region. Upon the shores of Lake Titicaca (at an elevation of 12,700 feet) barley and oats grow, but wheat does not succeed.

Coarse cotton and woollen cloths are made by the Indians and mixed races, but most of the finer articles of manufacture are obtained from Europe. Gold and silver are skilfully worked into trinkets, and various articles either of use or ornament, in Lima and elsewhere. There are also some works in iron and other metals.

An active commerce is carried on by Great Britain with Peru and the other States upon the west coast of South America. The articles which Peru supplies to the markets of Europe are the precious metals, saltpetre, cinchona-bark, vicuña and sheep's wool, chinchilla fur, and (of late years) guano. The latter substance, which is now extensively used in our own country as a manure, is obtained principally from the little group of the Chincha Islands, lying off the coast to the southward of Lima. Every variety of British manufactured goods are imported. Considerable traffic is carried on with the adjacent South American States, as well as with Mexico and the countries of Central America, to all of which Peru supplies sugar, wines, brandy, salt, and articles of minor importance.

The internal trade of all the South American countries is impeded by the want of good roads, and goods are mostly transported upon the backs of labourers, who carry heavy burdens across the mountain-paths.

(840.) *National Divisions, Towns.*—Peru is divided into eleven departments, besides the two littoral provinces of Piura and Callao.

The capital of Peru is *Lima*, which stands on the small river Rimac, in a fine valley, at a distance of six miles from the sea. Lima is a regular and well-built city, but (owing to the frequency of earthquakes) the houses are all low,—rarely more than one story in height, with the roofs flat. Of the public buildings, the Cathedral, which was founded by Pizarro, and

contains his remains, is the most striking, and possesses a rich and splendid interior. There are numerous churches and chapels, besides great many convents and nunneries. Lima has about 80,000 inhabitants. *Callao* (5000 inhabitants), the port of Lima, is strongly fortified, and is the chief seat of the foreign trade of the republic.

Truxillo, on the coast to the northward of *Callao*, has 9000 inhabitants and considerable trade. *Payta* (celebrated in the narrative of *Anson's* voyages) is a small sea-port further to the northward, but is now less important than formerly.

Pasco (12,000 inhabitants), on the interior table-land, to the north-east of Lima, lies at an elevation of more than 14,000 feet above the sea and has throughout the year a climate which resembles a cold English winter. Adjacent to it are valuable silver mines. *Guamanga*, also in the interior, to the south-eastward of Lima, has 26,000 inhabitants.

Cuzco (40,000 inhabitants) is the principal place in the mountain-region and the second city in the country for size and population. It lies at a distance of nearly 400 miles to the east-south-east of Lima, in a wide valley elevated 11,300 feet above the sea. The inhabitants carry on some cotton and woollen manufactures, and make leather and furniture with considerable skill. *Cuzco* was the capital of the ancient Peruvian monarchy, prior to the arrival of Europeans in the New World, and many architectural and other remains of the time of the Incas are still in existence.

The larger portion of Lake Titicaca, in the south of Peru, belongs to this republic. Upon its western shore is *Puno*, a place of some trade, with 9000 inhabitants. *Arequipa*, on the western declivity of the Andes (at a height of 7850 feet above the sea), has 35,000 inhabitants, and is one of the best-built and most flourishing cities in South America. It has, however, been frequently injured by earthquakes. *Yslay* (or *Ilay*), on the neighbouring coast, is the port of Arequipa. *Arica*, the chief port of southern Peru, is a small place, but has considerable trade. *Iquique*, still further south, has valuable saltpetre mines in its neighbourhood.

(841.) Peru constitutes a republic, under the administration of a President and a Congress, similar in most respects to that of the United States of North America. But the country has long been in an unsettled condition, and the four southern departments at one time separated themselves from the remaining provinces, and erected themselves into a separate state, under the title of the South Peruvian Republic. The Roman Catholic religion prevails here, as throughout South America, excepting among such of the native tribes as have not been converted to Christianity.

SECTION V. — BOLIVIA.

(842.) *Boundaries and Extent.* — Bolivia is bounded on the north-west and north by Peru, on the north-east and east by Brazil, on the south by La Plata and Chili, and on a small portion of its western frontier by the Pacific Ocean. But its sea-coast is of very limited extent, reaching little more than one hundred miles, and this maritime tract is divided from the rest of the country by the stupendous Cor-

dilleras, or mountain-chains, of the interior. The whole area of Bolivia is probably not less than 473,000 square miles.

(843.) *Natural Features, Climate, &c.*—No country on the globe has a greater variety of physical aspect, soil, climate, and productions, than Bolivia. The western half includes the highest plateaus and mountain-ridges of the Andes, which exhibit cold, naked, and dreary plains on their summits, though everywhere intersected by deep and fertile valleys. But the slopes of the eastern cordillera are covered with vegetation, and spread out into the immense lowland plains which belong to the basins of the Amazon and Paraguay. The maritime region, along the coast of Bolivia, is wholly sterile, and forms part of the desert of Atacama (Art. 812).

The mineral productions of the country include gold, silver, mercury, tin, and copper ; but many of the mines have been long since exhausted, and few of them are at present worked to any advantage.

The vegetation of the interior plains includes all the more valuable productions already mentioned as belonging to this part of the American continent, and forests of almost boundless extent cover vast tracts of country. The cactus abounds on the eastern declivities of the cordilleras (at an elevation of 7000 feet above the sea), and attains in some cases a height of forty feet. Below this is a zone of acacias, and at a lower level are the bamboo and numerous tree-ferns. The maté, or Paraguay tea-plant, is extensively spread over the eastern plains ; the copaiva balsam, and the cinchona-bark, are found on the sides of the mountains. The coca-tree is abundant in Bolivia, as well as in Peru, and the natives of both countries universally masticate its leaf, in the same way that the Malays chew the fruit of the betel-nut. Coffee, cocoa, tobacco, indigo, cotton, sugar, maize, mandioc, batatas, guavas, and many other fruits, are all common, and several of them cultivated to a limited extent. The coffee grown here is of excellent quality.

(844.) *Inhabitants.*—The population of Bolivia amounted, in 1855, to 2,326,000, of whom more than half are whites. The remainder consist either of Indians or mixed races. Many of the native tribes are intelligent and industrious: some of them are engaged in pastoral occupations, and others in the culture of the potato.

The industrial pursuits of the Bolivians are nearly the same as those of the people of Peru. Some coarse cotton and woollen cloths are made, and a good deal of leather is prepared ; the numerous sheep, vicunas, and other animals, supply abundant materials for the latter pursuit. The commerce of Bolivia labours under great disadvantages, owing to the mountainous nature of great part of the country, and the difficulty of communication between the interior and the sea. Even the

precious metals will not in all cases bear the cost of the labor: transit across the mountains, upon the backs of mules or other beasts burden, and wheeled vehicles are unknown. Some gold and silver with bark, and the wool of the sheep and vicuna, are exported, and European manufactures imported—chiefly by way of Arica (on the coast of Peru), through which port most of the foreign trade of Bolivia passes.

(845.) *National Divisions, &c.* — Bolivia is divided into nine departments. The city of *Chuquisaca* (12,000 inhabitants), which lies in a fine valley upon the table-land of the interior, at an altitude of 9300 feet above the sea, is the capital of the State. About seventy miles to the south-west is *Potosi*, formerly celebrated for its rich mines of silver. The town of Potosi stands on the declivity of a mountain of the same name, at a height of 13,000 feet above the sea. At one time it is said to have had 160,000 inhabitants, but the mines are now of little value, and the population is reduced to 9000. *Cochabamba*, to the N. W. of the capital, is situated in a fine agricultural district, and has 25,000 inhabitants. *Santa Cruz de la Sierra* (9000 inhabitants) lies in the midst of the immense plains of the interior, at the foot of the most direct offsets from the eastern cordillera.

The town of *La Paz* (40,000 inhabitants) lies at a short distance from the S. E. shores of Lake Titicaca, and has considerable transit-trade. A small island in the lake is celebrated in Indian tradition as the spot where Manco Capac, the divinely-appointed lawgiver of the Peruvian race, was first entrusted with his sacred mission. *Cobija*, or *Puerto-la-Mar*, the only sea-port of Bolivia, is a wretched place, but possesses a small amount of trade.

(846.) The government of Bolivia is republican in form; but the president is elected for life, and has the privilege of naming his successor. There is a legislative body composed of three chambers, and the fullest amount of political and religious freedom is secured by the various institutions.

Both Peru and Bolivia were formerly included under the dominion of Spain. Peru became independent of Spain in 1822. The battle of Ayacucho, fought in 1824, completely destroyed the power of Spain on the South American continent, and Bolivia was erected into an independent republic in 1825.

SECTION VI. — CHILI.

(847.) *Boundaries and Extent.* — Chili is a long and narrow country on the western side of South America. Upon the east it is bounded by the stupendous chain of the Andes, which divide it from the provinces of La Plata, upon the north by Bolivia, and on the west and south by the Pacific Ocean. The length of Chili from north to south is 1150 miles; but its breadth nowhere exceeds 130 miles, and is less than 90 miles towards the northern extremity of the country. The area of the territory is 170,000 square miles (rather more than twice the dimensions of Great Britain).

(848.) *Natural Features, Climate, &c.*—The greater part of Chili is covered with hills which diverge from the great chain of the Andes, and which gradually diminish in height as they recede from the parent ridge. These chains are divided by valleys, many of which are broad and fertile, though others are mere ravines. The rivers all have short courses; most of them are mere mountain-streams, and few preserve a perennial flow of water. The longest is the Bio-bio (in the southern division of the country), which has a course of nearly 200 miles, and brings down a great body of water. The Maypu, further to the northward, is also a considerable stream.

The richest and most fertile districts of Chili are in the southern half of the country. Towards the north the hills become more bleak and naked, and only exhibit a scanty brushwood; even this disappears towards the border of Bolivia, where the Chilean frontier includes part of the desert-plain of Atacama.

The great cordillera which forms the eastern frontier of Chili is remarkable for the numerous volcanic summits which it contains: few of these, however, are in a state of activity. But earthquakes are of very frequent occurrence, and sometimes occasion the most tremendous devastation.

The climate of Chili is temperate and healthy; the rains fall in the winter months—from June to September, and the greater part of the country is speedily covered with a carpet of wild flowers and verdure. In the southern provinces, especially, a profuse vegetation prevails, and dense forests cover a great part of the surface. Among the mineral productions are gold, silver, copper, lead, and iron, but copper is the only one of these worked to any extent. Many other minerals are also found, including coal of good quality, which is extensively worked in the neighbourhood of Concepcion.

(849.) *Inhabitants.*—The population of Chili amounted (in 1858) to 1,558,000. The majority are either of Spanish, or of mixed Spanish and Indian, descent. The Indians of pure blood are few in number, and are only found to the southward of the river Biobio, in the province of Araucania, of which they form the sole inhabitants.

The Araucanians are a bold and warlike race, and have always succeeded in maintaining their independence of Spanish rule. At the present time, though nominally under the Chilean sway, Araucania really constitutes a distinct territory, the inhabitants of which are under a government of their own.

The Chileans (or Chileños) are regarded as possessing superior activity and intelligence, and as being honourably distinguished by the absence of that indolence which is so common a characteristic of the Spanish race. The females preserve the grace and gaiety of manner

which forms the common and well-known charm of their Spanish countrywomen. In the towns of Chili (and indeed throughout Spanish America), the evening forms the period of general gaiety, life, and act enjoyment: the shops are then lighted up, the streets and public walk crowded with idlers of all classes, anxious to enjoy the cooling and refreshing breeze, and numerous amusements are carried on, both in and out of doors.

Both agricultural and mining pursuits are extensively carried on in Chili. Oxen are reared to an immense extent (particularly in the southern provinces), single farms sometimes possessing from 15,000 to 20,000 head of cattle. Maize is cultivated in the northern districts, wheat and barley in the more southern tracts. Hemp is also raised in the northern provinces, as well as large quantities of potatoes. But the methods of farming are of the rudest kind, and the amount of produce is very much below the capabilities of the soil. Still, however, there is a surplus of grain for exportation.

Copper is the staple commodity of Chili, and the mines are very numerous, especially in the northern districts. Some of the ore is smelted on the spot, by aid of the native coal, but large quantities are annually shipped to Swansea, and a great deal is sent to the East Indies and the United States. Some silver is also worked, and is chiefly supplied to the English market.

The chief manufactures are earthenware jars, hempen cloths, cordage, soap, tallow, leather, and brandy. The foreign commerce is superior in amount to that of any other country on the west coast of South America, and is rapidly increasing. An immense number of hides are exported, besides copper, silver, wheat, wool, and hemp. The metals and hides are chiefly sent to Europe; wheat, flour, jerked beef, and fruits, to Peru, Ecuador, and other countries of South America. By far the larger part of the foreign trade is carried on with Great Britain, and the manufactures of our country are extensively imported into Chili. The linens of Germany; the silks, papers, perfumes, wines, and brandies, of France; the tobacco, sugar, and other productions of the United States, are also among the articles of Chilian consumption.

(850.) *National Divisions, &c.*—Chili is divided into thirteen provinces. The capital of the republic is the city of Santiago (80,000 inhabitants), situated in the interior, on an affluent of the river Mapu. *Valparaiso* (50,000 inhabitants), the principal sea-port of the country, and one of the most flourishing seats of trade on the west coast of America, lies to the north-westward of Santiago. A line of railway between Valparaiso and the capital, passing through the fertile valley of Quillota, is in process of construction.

Coquimbo or *La Serena* (8000 inhabitants), on the coast to the northward, is a place of considerable trade, and exports a great deal of the mineral produce. The town of *Conception*, in one of the southern provinces, lies a short distance above the mouth of the Biobio; *Talcahuano*, at the entrance of Conception Bay, forms its port. Conception has been repeatedly destroyed, by earthquakes and other causes, but has still a population of 10,000.

Valdivia, the southernmost province of the Chilian mainland, contains the port of that name, with 2000 inhabitants. Adjacent to its further extremity is the large island of Chiloe, which forms the most southern

province of the republic. Chiloe is a fertile territory: the interior abounds in cattle, and the coasts and harbours in fish. The inhabitants are partly whites, and partly Araucanian Indians and people of mixed blood. *San Carlos*, the chief town of the island, has 2000 inhabitants.

(851.) Chili is a republic, under the government of a president, a senate, and a house of representatives. It remained a colony of Spain until 1810, when a revolution occurred, and the independence of the country was established in 1817. Since that time it has enjoyed a greater share of tranquillity than most of the South American States.

SECTION VII. — LA PLATA.

(852.) *Boundaries and Extent.* — The provinces embraced under the general appellation of La Plata occupy a large tract in the interior and eastern portion of South America; most of them are situated within the basin of the great river whence they derive their name. Upon the north they are bounded by Bolivia, upon the east by Brazil and the waters of the Atlantic, on the south by Patagonia, and on the west by Chili.

La Plata includes fifteen distinct territories, each of which is nominally a separate republic. Three of the number — Paraguay, Uruguay, and (more recently) Buenos Ayres — have become politically detached from the others, and now rank as independent powers: the rest are united into a general confederacy, under the name of the United Provinces of La Plata, or Argentine Republic.

(853.) *Natural Features, Climate, &c.* — The greater portion of La Plata is an immense plain, which stretches between the eastern foot of the Andes and the shores of the Atlantic. The southern half of this plain includes the vast levels of the Pampas, which have been already described. In its central part is an extensive tract known as the desert of Las Salinas, in which the soil is sandy, and covered with a saline efflorescence; the rivers here have no outlets, and lose themselves in salt-water lakes or marshes. But the eastern and northern portions of the plain, which are watered by the Parana, Paraguay, and other tributaries of the Rio de la Plata, are exceedingly fertile, and include extensive tracts of rich alluvial soil.

The high valleys situated in the westerly part of this region, amongst the inland offsets of the Andes, are in general watered and fertile; they are capable of producing good crops of wheat and maize, whilst abundant pasturage is found on the declivities of the mountains.

The Rio de la Plata carries off the drainage of the larger portion of

this extensive territory. But in the western part of the plain of the Pampas there is an extensive and complicated system of inland water (embracing the rivers Diamante, Desaguadero, and others), which terminates in the large salt lake of Urre-lanquen. The salt obtained by evaporation from this lake was formerly largely consumed in Buenos Ayres.

The climate of this large territory of course exhibits considerable variety; the northern parts are hot, excepting within the higher districts adjacent to the mountain cordilleras. In the south, a cooler temperature prevails, and the province of Buenos Ayres has a climate resembling that of many portions of Southern Europe; though the summer heat is greater, and the cold of winter less generally perceptible. The changes of temperature are often, however, sudden and considerable, and the winds exercise a powerful influence on the condition of the atmosphere. The northerly winds, which are hot, resemble in their effects the sirocco of Southern Europe, while the south-west wind, or pampero, brings with it the cold air from the snow-covered summits of the Andes. The rains are generally most abundant before the setting-in of the cold season.

(854.) *Inhabitants.*—The total population of the La Plata territory is loosely estimated at about 2,500,000—a small number for so extensive a region. But only a minute fraction of the land is under cultivation, nearly the whole consisting of open pasture-grounds. The State of Buenos Ayres, the former head of the Argentine Confederacy, has 350,000 inhabitants.

In the southern provinces of La Plata the population consists chiefly of whites—mostly of Spanish descent, though in Buenos Ayres there are numerous English and French, with other foreigners. The number of Indians becomes greater towards the northward, and in some of the provinces they form the bulk of the people. Many of these are the descendants of tribes who were early civilised by the Jesuits, and form settled agricultural communities. But other parts of the country are still in the possession of warlike and savage tribes.

The wealth of La Plata consists in its immense herds of horses and oxen, which are reared upon the vast plains of the pampas. Horse and ox hides, and horns, form the staple articles of the trade with foreign countries, the greater portion of which centres in the city of Buenos Ayres. Upwards of a million of ox-hides are annually exported thence together with numerous cow-hides, horse-hides, and skins of other animals—including those of the sheep, goat, calf, deer, and chinchilla furs.

Sheep's-wool, horse-hair, dried beef, tallow, bones, and hide-parings also constitute important articles of export, and indicate the general character of industrial pursuits in this region of the globe. The oxen and other animals are not now, as formerly, left to run wild in the pampas, but the limits belonging to different proprietors are marked out, and indicated by definite landmarks. The stock of cattle within the province of Buenos Ayres alone is estimated to amount to between three and four millions, and the number is doubtless on the increase.

Wheat, rice, maize, and numerous fruits, are grown in many portions of this territory ; and in some of the northern tracts, tobacco, sugar, cotton, indigo, and other tropical productions, are capable of successful cultivation. But a very limited amount of attention is bestowed upon agriculture. In Paraguay the most important article of produce is the yerba-maté, or Paraguay tea, which is largely consumed in most of the South American countries: this plant is also found in an indigenous state in the province of Salta, more to the northward.

The mineral wealth of La Plata is considerable, and small quantities of gold, silver, and copper, are exported. The mining districts lie chiefly in the western and north-western portions of the territory.

There are few manufactures in La Plata; coarse woollen stuffs are made in some places, particularly the short riding-cloaks (or ponchos) which are universally worn both here and in the neighbouring parts of South America. But most manufactured articles are imported, chiefly from Britain, with which country by far the larger portion of the foreign trade of the republic is carried on. Besides cotton and other textile fabrics, the imports comprise wine, brandy, earthenware, glass, jewellery, and hats ; with sugar, coffee, tobacco, and large quantities of salt (chiefly from St. Ubes and Cadiz), used in curing the flesh of the vast numbers of oxen which are annually slaughtered for their hides.

A great deal of internal traffic is carried on between the different provinces, and the roads are generally better than in most parts of South America. But the boundless facilities for communication that are presented by the great rivers are at present almost entirely neglected.

(855.) *Natural Divisions, Towns, &c.*—The names of the provinces comprised within the territory of La Plata, with the chief town of each, are as follow : —

Chief town.		Chief town.	
Buenos Ayres - -	Buenos Ayres.	Rioja - - - - -	Rioja.
Santa Fé - - - -	Santa Fé.	San Juan - - - - -	San Juan.
Entre Rios - - -	Bajada, or Parana.	Mendoza - - - - -	Mendoza.
Corrientes - - -	Corrientes.	San Luis - - - - -	San Luis.
Cordova - - - -	Cordova.		
Santiago - - - -	Santiago del Estero.		
Tucuman - - - -	Tucuman.	Paraguay - - - - -	Assumption.
Salta - - - - -	Salta.	Banda Orientale, or	
Catamarca - - -	Catamarca.	Uruguay - - - - -	Monte Video.

The city of Buenos Ayres (122,000 inhabitants), the capital of the republic of that name, and the former seat of general government for the Argentine Confederacy, lies on the western shore of the Rio de la Plata. It is the emporium of an extensive foreign trade. Buenos Ayres is regularly built, but contains few public buildings of any note, except the cathedral. The town of *Parana*—a small place situated on the left bank of the river of that name, (250 miles above Buenos Ayres) is the present seat of government for the general confederacy.

Few of the other towns of La Plata require any especial mention, excepting Monte Video, the capital of the republic of Uruguay, which is also the seat of considerable foreign trade. The commerce of Monte Video was seriously injured by the long-continued prevalence of hostilities between the Banda Orientale and the neighbouring state of Buenos Ayres, but it is now reviving. The towns in the interior of La Plata

are all of small size, and of little importance. *Carmen*, a small settlement on the n. bank of the Rio Negro, a short distance above its mouth, belongs to the republic of Buenos Ayres.

(856.) The provinces of La Plata formerly belonged to Spain, but asserted their independence in 1816. They subsequently formed themselves into a federal republic, each State having a separate government of its own, and the whole being united into a general confederacy. But the union between them has become little more than nominal, though for general purposes the State of Buenos Ayres is regarded as the head of the confederacy, and maintains the relations of the country with foreign nations. In all the States, the president or governor exercises nearly absolute power.

(857.) PARAGUAY embraces the peninsular territory which lies between the two great rivers Parana and Paraguay, above their junction. It includes an area of 87,000 square miles, with a population of above 1,000,000. On the revolt of the provinces of La Plata from Spanish rule, the people of Paraguay refused to acknowledge the authority of the central government of the confederation, and this province has since formed an independent state.

Assumption (or *Ascension*), the capital, is a small town on the left bank of the Paraguay; it has about 15,000 inhabitants, and carries on some trade, chiefly in the export of the maté or Paraguay tea, which grows abundantly in the surrounding district.

(858.) The republic of URUGUAY, or BANDA ORIENTALE, lies to the eastward of the river Uruguay; and extends from the north bank of the La Plata to the Brazilian frontier, embracing a compact territory of about 71,000 square miles, with (in 1859) a population of 214,000. Its capital is the city of Monte Video.

Monte Video stands on a point of land at the northern side of the entrance to the Rio de la Plata. Its harbour forms a circular basin, which opens to the south-west, and on its opposite side is a hill from which the city derives its name. Monte Video is a fortified town, with a citadel, and is regularly built: it has about 35,000 inhabitants.

(859.) PATAGONIA, a large country which occupies the southern extremity of the American continent, extends from the frontier of La Plata southward to the Strait of Magellan. The mountain-chain of the Andes stretches along its western border, but the greater part of Patagonia, as well as the adjacent islands of Tierra del Fuego, consists of a sterile plain, which has a gradual slope towards the shores of the Atlantic. The sovereignty over Patagonia is claimed by the Argentine republic.

No part of this country is cultivated. The few inhabitants, who are uncivilised native tribes, subsist on their herds of horses and by the produce of the chase. Great numbers of wild cattle are found within this region, as well as guanacoës, emus, armadillos, and other animals. Pumas and wolves are also frequent, and seals and other marine animals frequent the coasts.

The inhabitants of Patagonia were described by the older voyagers as

a race of giants, and are really a tall and muscular people, averaging about six feet in height. They lead a nomadic life. The Fuegians, who inhabit the mountain-region, and the islands of the adjacent archipelago, are a people of diminutive stature, and live chiefly by fishing.

(860.) The FALKLAND ISLANDS, situated off the eastern coasts of South America, are about 200 miles distant from the entrance to the Strait of Magellan. They consist of two large islands—East and West Falkland, which are divided by a channel called Falkland Sound—with upwards of 200 smaller islets. The total area of the group is about 6000 square miles, of which East Falkland includes 3000, and West Falkland 2000. The smaller islands make up the remainder.

The coasts of these islands are indented by numerous inlets, some of which form good harbours. A chain of hills crosses East Falkland from east to west, and varies between 800 and 2300 feet in altitude; but the land is in general low and undulating. The average height of West Falkland appears to exceed that of the eastern island, though the highest elevations are found upon the latter. A large proportion of the surface consists of moorland and black bog, with abundance of peat, which furnishes good fuel; but in the bottoms of many of the valleys the soil is fertile, and produces excellent herbage. There are few rivers, but springs and ponds of fresh water are numerous.

The climate of the Falkland Islands resembles that of England, but with a less range of temperature. Rain is frequent, but rarely of long continuance.

There are no trees in the Falkland Islands, but a few bushes occur; the most valuable productions are their grasses, some of which grow to large size—especially the species called the *tussac* grass, which covers extensive mossy tracts. Turnips are cultivated with partial success, but potatoes will not grow, nor does grain ripen: the land appears better adapted to the breeding of cattle. In East Falkland there are great numbers of wild oxen, besides a small breed of wild horses. Sheep thrive on particular spots, but the general pasturage is not suitable for them. Wild pigs are found on some of the smaller islands.

The Falkland Islands were discovered in 1592. The French, Spaniards, and British, have at various times formed settlements on their shores, and more recently the Government of Buenos Ayres established a colony at Port Louis, on the island of East Falkland. But this was surrendered to the English in 1833, and the sovereignty of Britain over the whole group is now acknowledged. The settlement of *Stanley*, at the head of Port William (upon the coast of East Falkland) is a free port. Vessels passing round Cape Horn occasionally visit these islands, for the sake of obtaining supplies of water and fresh provisions, and they are frequented by numerous American, French, and other whalers and sealing vessels.

CHAPTER XVII.

AUSTRALIA.

SECTION I.—PHYSICAL GEOGRAPHY.

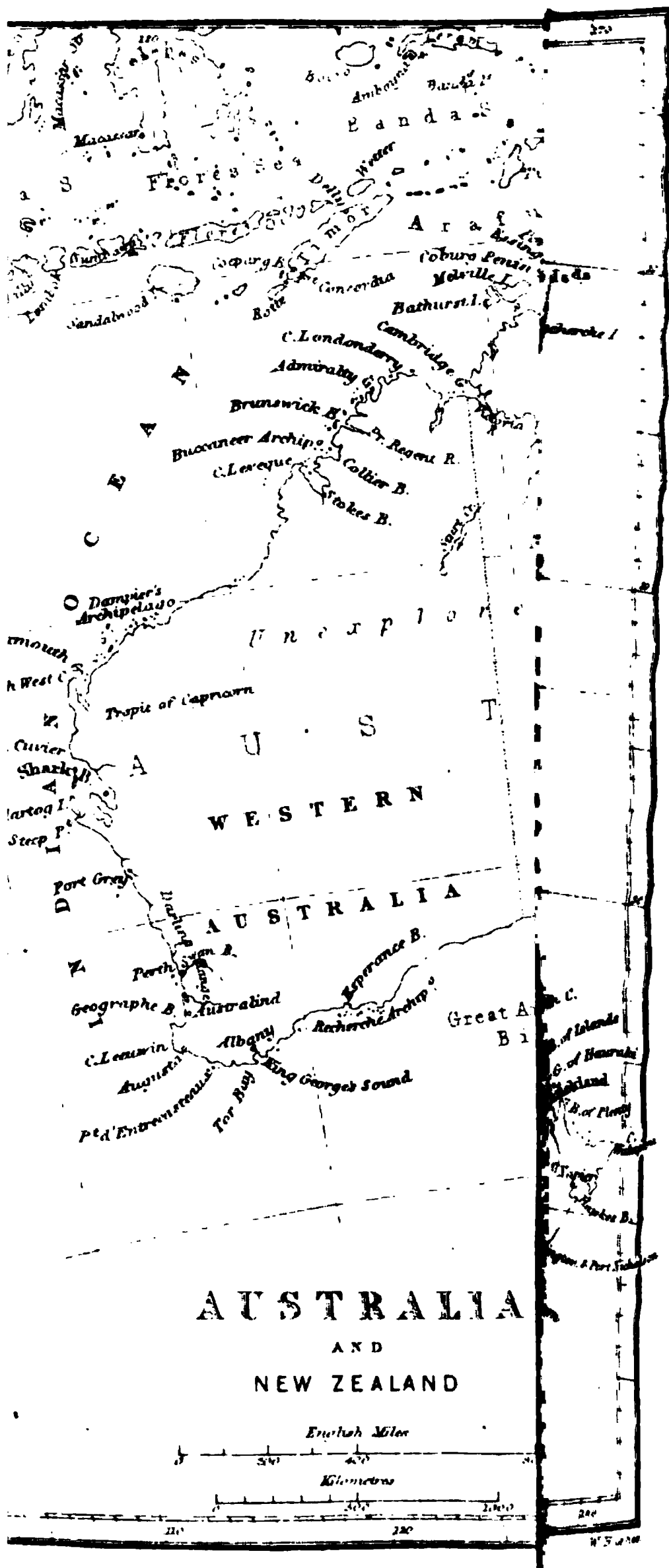
(861.) *Extent and Boundaries.*—Australia lies wholly within the southern hemisphere. The most northern point of the Australian continent, Cape York, is $10^{\circ} 42'$ to the south of the equator; Cape Wilson, its southern extremity, is in $39^{\circ} 9'$ s. latitude. A straight line drawn between these points measures upwards of 2000 miles, but the average extent of Australia from north to south is about 1200 miles. The most western point of the Australian mainland (called Steep Point) is 113° , and the most eastern, Cape Byron, $153^{\circ} 47'$, east of the meridian of Greenwich; its greatest dimensions in this direction are equal to 2400 miles.

The superficial extent of Australia is about three millions of square miles—an area more than four-fifths as great as that of Europe. But although of smaller dimensions than either of the other continents, yet its unbroken form, and the immense extent of solid land which stretches between its opposite seas, impart to the climate and productions of Australia a much more strictly continental character than belongs to the greater portion of the European mainland.

Upon the east, the shores of Australia are washed by the Pacific, and upon the west and north-west by the Indian Ocean. The channel of Torres Strait, which divides the northern extremity of the Australian continent from New Guinea, connects the basins of these two great oceans.

The sea to the southward of Australia is commonly described under the general name of the Southern Ocean.*

* This is equally open to the Indian and Pacific Oceans. But an imaginary line drawn from the southern extremity of Van Diemen's Land to the Antarctic Circle is regarded as marking the limit between those two great seas.



The channel of Bass's Strait washes the south-eastern coast of Australia, and divides it from Van Diemen's Land.

(862.) *Gulfs, Bays, &c.*—The shape of Australia is square and compact, and its shores are broken by few large inlets. In this respect, as in many other particulars, its formation bears more resemblance to that of Africa than to either of the other continents.

The largest inlet of the Australian coast is the *Gulf of Carpentaria*, upon its northern side. The eastern and south-eastern shores of this gulf are exceedingly low and flat. In its southern and western part are the small groups of the Wellesley and Pellew Islands, besides one of larger dimensions, which bears the name of Groote Eylandt.

The *Gulf of Van Diemen*, further to the westward, is formed by a projecting tract of land called Coburg Peninsula, and by the two islands of Melville and Bathurst. These islands are separated by the channel of Apsley Strait. Melville Island is of the larger size : both islands are thickly wooded.

Upon the north-west coast of Australia are *Cambridge Gulf*, *Admiralty Gulf*, and several inlets of smaller size. *Shark Bay*, upon the western coast, is formed in part by a chain of islands, the largest of which is called Dirk Hartog Island. The entrance of Shark Bay is called Geographe Channel.

The southern coast of Australia forms a broad sweep, generally distinguished as the Great Australian Bight ; but the only considerable inlets on this side are *Spencer's Gulf* and *St. Vincent's Gulf*, which are separated from one another by a narrow neck of land called York Peninsula. Both of them are deep estuaries, and penetrate some distance into the interior. Off the entrance of St. Vincent's Gulf is Kangaroo Island. Adjoining this to the south-eastward is *Encounter Bay*, a broad arm of the sea.

There are no inlets of any considerable magnitude upon the east side of Australia, though in many places, both there and elsewhere, the coast forms excellent harbours.

Torres Strait, which separates Australia from New Guinea, is ninety miles wide. The navigation of this channel is exceedingly dangerous, owing to the numerous coral reefs and islets with which it is studded. From its immediate neighbourhood, a chain of coral reefs, known as the "Great Barrier Reef," extends along the eastern coast as far south as the latitude of $24^{\circ} 30'$. Its average distance from the coast is about thirty miles, though in some places it is not more than ten or fifteen miles from the shore, while in others it lies nearly a hundred miles off. The narrow channel which lies between the reef and the shore affords a good and safe passage for ships. Upon its outward side the reef rises perpendicularly from a deep sea. There are a few openings in the reef by which vessels can pass between its outer and inner sides, but their navigation requires extreme care. The sea which extends to the eastward of the Great Barrier Reef contains numerous coral rocks and islets, and is generally distinguished as the Coral Sea.

Bass's Strait, which divides Australia from Van Diemen's Land, is about a hundred and twenty miles in width. This channel is also ob-

structed in part by islands and coral reefs, though to a much less extent than that at the opposite extremity of the continent : its navigation is, however, dangerous. At the eastern entrance of Bass's Strait is the group of Furneaux Islands, and at its western extremity King's Island and Hunter's Islands—the latter of which are immediately adjacent to Van Diemen's Land.

(863.) *Capes, &c.*—The principal headlands on the Australian coast are Cape York, its most northern point ; Cape Byron, the most eastern point of the mainland ; Cape Howe, at its south-eastern extremity ; Wilson Promontory, the most southern point ; Cape Leeuwin, in the south-west ; Steep Point, which forms its western extremity ; North-west Cape, Cape Leveque, and Cape Londonderry, all upon the line of the north-western coast.

The principal peninsulas are—that situated to the east of the Gulf of Carpentaria, and terminating in Cape York (hence sometimes called Cape York Peninsula) ; Coburg Peninsula, upon the north coast, already mentioned ; and York Peninsula, lying between Spencer's and St. Vincent's Gulfs, upon the south. The latter terminates in Cape Spencer.

(864.) *Surface :—Mountains.*—The hilly portions of Australia, so far as at present known, appear to be confined to the neighbourhood of the coasts, or to extend only a short distance inland, while the interior spreads out into low and flat plains. The highest mountains are in the south-east, and are called the *Australian Alps*, which form a continuous chain, at a distance of between sixty and seventy miles from the coast. The highest measured peak of the Australian Alps (called "Mount Kosciusko") is 6500 feet above the sea ; its summit, even at this moderate elevation, rises above the snow-line, and all the higher portions of the chain are covered with perpetual snow.

To the northward of the Australian Alps, chains of mountains extend along the whole of the eastern coast ; the best known portions of these are the Blue Mountains and the Liverpool Range. These ranges, together with the Australian Alps, form part of a great cordillera of heights which extends throughout the eastern coasts of the Australian continent, and is prolonged thence (beneath the waters of Bass's Strait) into the neighbouring island of Tasmania.

The Blue Mountains (which are of sandstone formation) lie immediately to the north of the Australian Alps, and run parallel to the coast.

Though of inconsiderable elevation, they are exceedingly steep and rugged, and are intersected by deep and precipitous ravines, which in many cases exhibit stupendous chasms, enclosed between walls of rock. Mount York, the highest summit of the Blue Mountains, is 3440 feet in altitude, and the average height of the range is between two and three thousand feet. To the westward of the principal chain the country continues hilly for some distance, and contains a few detached groups and isolated summits; among these is the peak of Canobolas, 4631 feet above the sea.

The Liverpool Range stretches to the northward of the Blue Mountains, and is in many places equally rugged; its summits, composed of naked peaks of greenstone—a volcanic rock,—vary between 2000 and 4000 feet in elevation. Mount Lindesay, further to the north (lat. $28^{\circ} 30'$ s.), is 5700 feet in altitude, and other points in the neighbourhood of the east coast are probably of equal elevation.

The country which lies between the above ranges and the sea is an undulating and watered region, penetrated in part by advanced spurs from the mountain-chains, and possessing a moderate degree of fertility. Upon their western or inland side, the country forms for some distance a succession of high upland downs, varying from 900 to 2000 feet above the sea, and distinguished by the names of Liverpool Plains, Brisbane Plains, Darling Downs, and other appellations. These constitute tracts of grazing land of the finest description; but the country afterwards sinks towards the interior into flat and sterile plains, the slope of which is so gradual as scarcely to afford an outfall to the running waters.

The country lying to the west and south-west of the Australian Alps (and embraced within the colony of Victoria) is a hilly and watered district, with a surface more generally diversified than any other portion of Australia. Some of the ranges situated here are embraced under the names of the Australian Pyrenees and the Australian Grampians; the summit of Mount William, in the latter, is 4700 feet above the sea.

A chain of heights extends, in a north and south direction, parallel to the eastern shores of St. Vincent's Gulf, at a distance of not more than 20 miles inland, and stretches thence into the interior. This bears the general name of Flinders Range, and contains some summits which exceed 3000 feet, though the average height is considerably less. There are also other ranges, lying in a general north and south direction, in this portion of Australia, some of them situated a considerable distance inland; but their elevation is generally trifling.

Chains of hills appear to extend along great part of the western coast of Australia, in the same general direction as those upon its eastern side; but their elevation is nowhere so great. In the south-west, they bear the name of the Darling Range, and run parallel to the coast, at a distance of fifteen or twenty miles inland: these hills rarely exceed 2000 feet in elevation, though some peaks are upwards of 3000 feet. The western coasts, to the southward of Shark Bay, are generally high and rocky; thence to the parallel of 18° the shores are frequently low, with hills at a short distance inland: the north-western coast again becomes elevated and rocky.

That portion of the south coast which extends between Spencer's Gulf and the neighbourhood of King George's Sound (long. 118° E.) is flat,

sandy, and entirely barren, and the adjoining land only elevated to a trifling height above the level of the sea.

The mountain-chains in Australia lie generally in a meridian direction. No active volcano has been found on this continent, but some extinct volcanoes, with distinctly-marked craters, occur in the neighbourhood of the south coast (to the westward of the river Glenelg, which enters the sea under the meridian of 141°). To the southward of the Liverpool Range (within the colony of New South Wales), there is a bituminous hill, named Mount Wingen, which exhibits an intense degree of heat, and emits sulphureous vapours.

Large portions of the Australian continent yet remain to be explored; but the interior has been penetrated, from various points, to considerable distances, and with results which, upon the whole, promise well for the interests of the settler. There are doubtless some tracts within the central interior which are hopelessly barren, as that visited by Captain Sturt in 1845 (nearly due northward from Adelaide), and since marked upon our maps as the Central Australian Desert. At the furthest distance reached on this occasion, about midway between the southern shore of the continent and the head of the Gulf of Carpentaria, was found a region but little elevated above the sea, wholly destitute of water, and equalling in sterility the worst portions of the African Sahara. But elsewhere, alike from the direction of the eastern, north-western, and southern coasts, extensive tracts of watered and fertile land have been proved to exist.

(865.) *Rivers : Lakes.* — The most extensive system of rivers in Australia belongs to the basin of the Murray, which drains a large tract of the interior, in the south-eastern portion of the continent.

The river *Murray* rises upon the western slope of the Australian Alps, and, after flowing for the greater part of its course in a westerly direction, turns to the south and enters the sea at Encounter Bay, passing through Lake Alexandrina immediately above its mouth. During the westerly portion of its course the Murray receives the waters of the Murrumbidgee (with its affluent, the Lachlan), and the Darling, the latter of which collects the waters of numerous tributary streams. All of these rivers flow from the western side of the Blue Mountains or other ranges of the east coast, and have their upper courses directed towards the interior of the continent. The length of the Murray exceeds 1200 miles, and the area of its basin is considerably upwards of 200,000 square miles, so that it carries to the sea the waters of a tract more than twice as large as the island of Great Britain, and equal in dimensions to the whole of France. But the volume of water contained in most of its tributaries is comparatively trifling, and the beds of some of them are nearly dry during certain periods of the year.

In its lower course, the Murray becomes, however, a considerable stream. At its junction with the Murrumbidgee it is 350 feet broad, with a depth of from twelve to twenty feet. Below its junction with the Darling the breadth becomes increased, and thence to its entrance into Lake Alexandrina the Murray is from 100 to 250 yards broad; while its depth varies from forty feet (which it retains for a long distance from

the lake upwards) to occasional shallows of twelve feet. Its current is trifling, varying from half a mile to a mile and three-quarters an hour. The navigable capabilities both of the Murray and the Murrumbidgee rivers have been recently proved to be much greater than had been anticipated. Both rivers are navigable from May to the end of December in each year, and for the whole twelve months in those years when more than the average rain-fall occurs. Steamers ascend the Murray to within 150 miles of its source, and towns are rapidly springing into existence under the influence of the increasing facilities for internal traffic which are thus in process of development.

Lake Alexandrina is an extensive sheet of water, twenty-seven miles long by twenty-three broad, and covering an area of 273 square miles. But it is throughout shallow (varying from six to nine feet in depth), and the channel by which its waters communicate with the sea is exceedingly narrow and dangerous. The water of Lake Alexandrina is fresh near the entrance of the Murray, but becomes brackish towards the sea. To the eastward it communicates with Lake Albert (which is also brackish), as well as (towards the south-east) with a long and narrow salt-water estuary called Lake Coorong.

Some other rivers which flow from the highlands of the east coast in a westerly direction are lost in the immense flats of the interior, and terminate without reaching the sea. This is the case with the river *Macquarie*, which rises on the western slope of the Blue Mountains, and, after a course of 300 miles in a north-westerly direction, is lost amidst a tract which consists alternately of extensive marshes or of a dry sterile plain—according as the dry or the rainy season prevails.

(866.) Numerous rivers enter the sea upon the eastern side of Australia. Their courses are generally short, being limited to the tract between the mountains and the coast. Among the principal of them are the Shoalhaven, Hawkesbury, Hunter, Hastings, M'Leay, Clarence, Richmond, and Brisbane. The two most considerable of these are the Hawkesbury and Hunter rivers, the latter of which has a course of about 200 miles, and is navigable by small vessels for fifty miles inland. Richmond River is navigable for seventy miles above its mouth. In all these rivers, however (as, indeed, throughout Australia), the quantity of water is subject to great and sudden variation, and streams which at one time are deep and rapid torrents are at another season almost dried up, or become converted into a mere chain of ponds.

The principal stream on the west coast is *Swan River* (about 180 miles long), which is a mere torrent, subject to sudden and tremendous floods. To the northward there are many other streams of similar character, but all of short courses, and of little importance. Upon the south coast, between the meridians of 119° and 138° , there are no rivers.

The rivers Fitzroy, Victoria, Adelaide, Alligator, Roper, Albert, Mitchell, and many others, enter the sea upon the north-west and north coast of Australia; but though some of them are broad and deep streams near their mouths, they become insignificant rivulets a short distance upwards. The three latter of those above named flow into the Gulf of Carpentaria.

Australia has no lakes (properly so called) of any magnitude: extensive sheets of water are frequently formed during the rains, but after-

wards become either dried up or converted into marshes. The shallow morass called Lake Alexandrina, which is merely an expansion of the mouth of the Murray, has been already mentioned, as well as Lake Albert and Coorong, with which it is connected. The name of Lake Torrens has been given to an immense salt swamp, to the northward of Spencer's Gulf; but this appears at times to be almost dry, though in other seasons it sends a considerable stream into the head of the gulf by means of which drift-wood of large size is sometimes floated down.

Australia is, upon the whole, more deficient in inland waters than any other of the large divisions of the earth's surface, and its coasts have been fruitlessly explored in the search for some great river which might indicate a road into the interior of the continent, and rival the streams of other portions of the globe.

(867.) *Climate.*—The climate of Australia is generally dry and healthy: the northern parts, which are within the torrid zone, are of course hot; but the southern and south-eastern portions (where the principal settlements have been made) have an average temperature which is not greater than that experienced in the south of Europe. Long periods of drought sometimes occur, while at certain seasons the rains fall with great violence. As Australia is situated in the southern hemisphere, the seasons of summer and winter of course occur at the opposite periods of the year to those at which we experience them—Thus our summer corresponds to the Australian winter, and the reverse: the months of December, January, and February, being there the warmest portion of the year, while June, July, and August, constitute the winter season.

In the extra-tropical regions of Australia (that is, all over the southern half of the continent), the rains generally occur during the period of winter, which season is distinguished more by this circumstance than by any considerable diminution of temperature, and resembles rather a wet English summer. The heat during the dry season is occasionally very great, and is increased by the prevalence of hot winds which blow from the deserts of the interior, where the air is often as intensely heated as in the midst of the African Sahara. In the neighbourhood of the coasts the heat is greatly tempered by the sea breezes, and the monsoons are experienced upon the northern shores of the continent. A greater quantity of rain is stated to fall in the northern parts of Australia than occurs to the southward of the tropic, though limited to a brief period of duration, and often irregular in its occurrence.

(868.) *Natural Productions: Minerals.*—The mineral resources of Australia at least equal in value, if they do not surpass, those of any other division of the globe. Gold is found, in greater or less abundance, along the whole inland face of the mountain-cordillera which stretches through the provinces of New South Wales and Victoria, from the latitude of 31° southward, over a range of between five and six hundred miles. Within the hilly regions of Victoria that lie further westward, the same metal occurs in an abundance which is only equalled by the gold-fields of California.

The discovery of gold in Australia dates only from the year 1851, and

from that time to the present the quantity of gold furnished by the Australian gold-fields has averaged at least 12,000,000*l.* sterling annually. The gold occurs, primarily, amongst the quartz rocks of which the Australian Alps and other portions of the mountain-cordillera are mainly composed; and also, in more easily accessible form, in the alluvial deposits that have been washed down, in the course of ages, from the mountain-region.

Copper, lead, iron, and coal, are also to be enumerated amongst the mineral productions of the Australian continent. The last mentioned is confined, so far as at present known, to the Hunter's River district in New South Wales; and to the neighbourhood of Swan River, on the opposite side of the continent. Copper is the characteristic produce of South Australia, where its ore occurs (in the district to the eastward of Spencer's Gulf) in greater abundance, and of richer quality, than in any other part of the world. Lead abounds in the same locality, and also occurs in Western Australia and elsewhere. Beautiful statuary marbles, and other useful productions of the mineral kingdom, are extensively distributed over the settled districts of Australia.

(869.) *Vegetation*. — Both in its vegetable and animal productions Australia presents the most striking differences from other parts of the globe. The native trees are all evergreens, and the forests consist principally of acacias, eucalypti (or gum-trees), and gigantic ferns, with nettles and many other plants which in Europe only attain the size of ordinary weeds. Palm-trees are limited to the N. and N. E. coasts, where the vegetation bears much resemblance to that of the adjacent East Indian Archipelago. Grasses are abundant in the fertile tracts; but Australia produces no native fruits capable of being used as food, excepting a few berries. All the principal food-plants of Europe have, however, been introduced, and are cultivated with great success in the different settlements. The cotton-plant succeeds on the east coast, and seems likely to be extensively grown: the vine, fig, orange, peach, and numerous other fruits, flourish in the greatest luxuriance wherever they have been tried.

(870.) *Zoology*. — The largest animal native to Australia is the kangaroo, which belongs to the *marsupial* order of quadrupeds; and more than two-thirds of its mammalia are embraced in this division of the animal kingdom. Three of the great orders into which the mammalia are divided are altogether unrepresented in the zoology of Australia, — namely, the quadrumana, the pachydermata, and the ruminating quadrupeds. This continent has none of the monkey tribe native to it; nor any of the thick-skinned animals (as the elephant, rhinoceros, horse, &c.); nor any oxen, deer, sheep, or other ruminants.

There are none of the larger beasts of prey; the most formidable is the native dog (or dingo), which commits serious ravages upon the property of the settlers. Among the marsupial animals, opossums are numerous, and there are several small varieties of the kangaroo tribe, as the kangaroo rat and others. One of the most remarkable animals of Australia is the *ornithorhynchus*, a curious semi-aquatic creature, which has the body of an otter, with a bill like that of a duck, and lays eggs. It frequents the margins of rivers and lakes, but remains mostly in the water, and is only approached with difficulty, on account of its extreme shyness. There are two native species of porcupine, be-

sides wombats, sloths, ant-eaters, bandicoots, and several other animals of small size.

Very nearly all the animals native to Australia are of distinct species from those found in any other part of the globe, and are peculiar to the continent. The whole number of its native species includes scarce more than a twentieth part of the total list of known mammalia, as the scarcity of individuals is quite as remarkable as the small number of species. In the interior, the traveller may frequently pass over many hundred miles of country without meeting with a single quadruped, and almost without finding the traces of a single land animal.

All the domestic quadrupeds of Europe have, however, been successfully introduced into Australia: horses, oxen, and sheep, are now reared in vast numbers in all its settled regions, and the ox has even passed (as in the plains of South America) into a wild state.

Among the native birds of Australia the most numerous are those of the parrot tribe, comprising paraquets, cockatoos, and others, many of them distinguished by the most beautiful plumage.

The family of honey-suckers (or *melliphagide*), which here takes the place of the humming-birds of the New World, is also numerous: all these birds have the tongue terminating in a brush-like bundle of very slender filaments, with which they suck the nectar of flowers.

Of rapacious birds, eagles, falcons, and hawks are numerous, as well as several owls. The largest among the feathered tribes of Australia is the emu, or cassowary,—a bird of the ostrich kind, though of rather inferior size to the African ostrich. It is found chiefly in the southern portions of the continent, but is yearly becoming scarcer under the advance of the settlers. The ordinary song-birds are almost entirely absent; as also are those of the gallinaceous kind, such as fowls, turkeys, pheasants, and other poultry, of which Australia does not contain any native specimens, excepting the bustard and the brush-turkey. Thus the birds most useful to man, as supplying him with food, as well as all the more useful quadrupeds, besides the cereals and other food-plants, are absent from this division of the globe.

The beautiful birds of paradise are found upon the northern coasts of Australia, and have doubtless been derived from the neighbouring islands of the East Indian Archipelago, many of the plants and animals proper to which are found in this portion of the southern continent.

The alligator abounds in the rivers of the north coast, and serpents are numerous in many parts of Australia. Some of them are venomous. Those seen in the northern (and hotter) parts of the continent are generally of larger size, and of greater variety, than in the settled regions further to the southward. Lizards are numerous in most parts of the country. Scorpions, centipedes, and other smaller members of the reptile tribe, are numerous, but not to such an extent as to cause any particular inconvenience or discomfort to the settler.

The seas, rivers, and lakes of Australia abound in fish, generally of distinct species from those familiar to the inhabitants of the northern hemisphere. Cod are abundant on the coasts, and are often of large size. Both whales and seals frequent the shores. The northern coasts are visited by the traders of the East Indian Archipelago for the sake of the tripang-fishery, as they furnish that substance in great abundance. Locusts occur in some parts of Australia. There are three kinds of bees, all stingless:

ants are numerous, and construct for themselves houses of considerable magnitude. Flies are also very abundant, to an extent which is a frequent source of inconvenience.

(871.) *Inhabitants.* — The aborigines of this continent belong to the Papuan or Austral-Negro race, and are considered as a branch of the proper Negro family, though they are decidedly inferior to the African Negro both in physical and mental attributes.

The native man of Australia is of a dark, sooty-brown (or chocolate-coloured) complexion, with long black hair, and a stature rather below that of the European. In many parts of the country the natives are in the lowest and most degraded condition of barbarism, being entirely destitute of clothing, and possessing no regular habitations, but wandering along the coasts, or on the banks of the rivers, in search of shell-fish or other articles of food. They eat ravenously whatever comes in their way, as grubs, worms, or insects of any description, besides the refuse of any animal matter, however disgusting its condition ; — a result which has ensued from the extreme scantiness of anything fit for the food of man which can be found among the native productions of this continent. Some of the tribes, however, exhibit indications of superior intelligence, are clothed with opossum skins or with coarse matting, and construct huts of the branches and leaves of trees.

The population of Australia consists principally of British colonists and their descendants, who number at the present time upwards of a million, and are rapidly increasing. The number of the native population is unknown : it is probably, however, very small, as the tribes embrace but few individuals, and are very thinly scattered over immense tracts of country ; nor is it possible that Australia, in its native state, could ever have supplied the means of life to any considerable number of inhabitants.

SECTION II. — THE AUSTRALIAN COLONIES.

(872.) Great Britain is the only nation that has planted any settlement upon the shores of Australia, and the whole of this extensive continent is included within the British Empire, though by far the larger portion of its interior is as yet unexplored.

The portions of Australia which are actually occupied as

settlements constitute the six Colonies of New South Wales, Queensland, Victoria, South Australia, and Western Australia; together with Tasmania, which comprises the adjoining island of that name.

I. NEW SOUTH WALES.

(873.) *Extent and Boundaries.* — New South Wales occupies part of the east coast of Australia, and stretches into the interior as far as the line of the 141st meridian, which divides it from the province of South Australia. Upon the south, it is divided from the colony of Victoria by a line drawn from Cape Howe to the source of the river Murray, and thence along that stream to the meridian of 141°. To the north is the province of Queensland, which until recently was included within New South Wales, and was known as the Moreton Bay district. The area of New South Wales is above 300,000 square miles, with a coastline exceeding 700 miles in length.

(874.) *Natural Features, Climate, &c.* — The coast of New South Wales is indented by numerous inlets. Among the principal is Port Jackson (in lat. 33° 51'), upon the southern shores of which is the city of Sydney: a few miles further south is Botany Bay. Along the coast to the northward of Port Jackson are Port Stephen, Port Macquarie, and Trial Bay.

The most conspicuous feature of New South Wales is the chain of mountains already described as extending along the coast, under the names of the Blue Mountains and the Liverpool Range. These lie in general at a distance of between seventy and eighty miles inland.

The coast district of New South Wales presents a varied and for the most part undulating surface, watered by numerous rivers, upon the banks of which are fertile tracts of rich alluvial soil. Among the streams within this portion of the province are the Shoalhaven, Hawkesbury, Hunter, Manning, Hastings, Macleay, Clarence, and Richmond. Beyond the mountains, the vast plains of the interior, which form the grazing grounds of the colonists, are watered by the numerous rivers which belong to the Murray basin, among them the Murrumbidgee, Lachlan, Macquarie, Peel, and Darling.

Notwithstanding their moderate elevation (which rarely exceeds 3000 feet), the Blue Mountains, owing to their rugged and precipitous aspect, long constituted an impassible barrier to the early colonists. It was not until the year 1813, nearly a quarter of a century subsequent to the first establishment of the settlement, that a road was discovered across them, and the fine grazing districts which lie beyond the mountains thus rendered available to the settlers. From that period the occupation of the interior districts advanced with great rapidity, and the pursuit of sheep and cattle farming became the main business of the colonists.

In its *climate and natural productions*, New South Wales is distinguished by most of the peculiarities noticed as belonging in general to this division of the globe. The worst feature in its climate is the recurrence at periodical intervals (generally about ten or twelve years apart) of long seasons of drought, during which the pastures often suffer severely. But the air is uniformly healthy, and is here—as in all the Australian colonies—remarkably conducive to longevity and general freedom from disease, especially from those pulmonary complaints which so often prevail in a more humid atmosphere. The mean annual temperature of Sydney (in $33^{\circ} 52'$ s. lat.) is 65.8 , the mean of summer 74.2 , of winter 55.5 , and of the hottest and coldest months respectively 75.4 and 54.2 ;—showing a difference of 18° between the summer and winter temperatures, and of only 21° between those of the hottest and coldest months.* The mean quantity of rain which falls during the year at Sydney is stated to amount to 52 inches.

The mineral productions of New South Wales include gold, though in quantity much inferior to that in which it occurs in the neighbouring province of Victoria, with copper, lead, iron, and coal.

The principal gold-producing district of this colony is within the valley of the Macquarie River, to the west of the Blue Mountains. It was there that (in the early part of 1851) gold was first discovered as a product of Australia, in the immediate neighbourhood of Bathurst, on the Upper Macquarie. The precious metal occurs also in many places amongst the high grounds of the Liverpool range, in the upper part of the Hunter River district, and elsewhere.

The coal-field of New South Wales adjoins the lower course of the river Hunter, to the northward of Sydney. The coal is worked for the purpose of export to the neighbouring colonies, besides being extensively consumed within the province. Several of the native trees furnish timber of a valuable description, in some cases distinguished by its hardness, and in others by its variegated and ornamental character. Among these are several varieties of the pine, the red cedar, and others.

(875.) *Inhabitants*.—The population of New South Wales amounted, in 1858, to upwards of 300,000, and the number is rapidly increasing. This colony is the oldest of the Australian settlements, having been established in the year 1788, chiefly as a place of transportation for criminals convicted of offences against the laws of the mother country. The convicts sent thither were in most cases assigned as farm-servants to the free settlers, or else employed, under the direction of the government authorities, upon various public works, such as the making of roads, &c. But transportation to New South Wales has for some time past been discontinued.

The vast majority of the emigrants to all the Australian colonies are natives of the British Islands, and more especially of Scotland and Ireland. The language, dress, manners, and usages of our country have thus been transplanted to the opposite side of the globe, and the characteristic

* In both the latter particulars the climate of Sydney nearly coincides with that of Lisbon ($38^{\circ} 42'$ N. lat.) and Gibraltar ($36^{\circ} 7'$ N.). The mean annual temperature of the former of these places is 61.4 , and of the latter 67.4 .

energy of the Anglo-Saxon race is rapidly developing itself in new fields of enterprise. The continual progress of immigration assists the natural increase of population, and causes its numbers to advance with extraordinary rapidity. In the year 1810 the population of New South Wales amounted to little more than 8200 individuals; in 1821, to fewer than 30,000; in 1833, to 71,000; in 1841 it had increased to upwards of 130,000; and ten years later to nearly 200,000.

The great staple of industry in New South Wales is sheep-farming; wool and tallow have hitherto constituted the chief articles of its produce—shepherds and graziers the great majority of its population. Australia has become the most extensive wool-producing country in the world. The total quantity of wool exported from the Australian colonies exceeds 50,000,000 lbs. annually. Of this quantity, New South Wales furnishes about two-fifths.

Agriculture is pursued in the colony on a less extensive scale, and the droughts which sometimes occur are unfavourable to its operations. The culture of the vine is rapidly advancing. The orange and other fruits that are native to warm climates flourish in the greatest luxuriance. The sugar-cane, tobacco-plant, indigo, arrow-root, and the tea-plant succeed. The cotton-plant thrives in the northerly division of the colony; indeed, cotton of the finest quality is capable of being produced along nearly the entire sea-board of eastern Australia.

The manufacturing industry of New South Wales is chiefly in connection with its sheep and cattle-farming. The skins of the sheep and other animals (including those of the kangaroo) are prepared into leather to some extent, and there are manufactories of soap and candles, hats, and a few coarse woollen goods, with agricultural implements, pottery, tobacco and snuff, and a few others. But by far the larger portion of the manufactures consumed in the colony are derived from Britain; among these are included every description of textile fabrics, besides hardware, and an immense variety of articles of the most varied kind, as furniture, glass, books, beer and ale, &c. (Art. 129.) The total value of British and Irish produce exported to New South Wales exceeds 5,000,000*l.* annually. Tea is imported direct from China; sugar from the Mauritius; wheat and other grains from the neighbouring colony of South Australia. Wool constitutes by far the largest item of the colonial exports.

(876.) *Divisions, Towns, &c.*—The eastern and settled portions of New South Wales are divided into counties,—the greater number of them situated within the coast-district. The inland districts immediately beyond these have only been partially surveyed, and at a greater distance towards the interior the country is wholly unknown.

The capital of New South Wales is the city of *Sydney*, which stands on the southern shores of Port Jackson—the most magnificent of natural harbours. The streets of the Australian metropolis are long and wide, the houses generally lofty and well-built, the shops attractive in appearance, and the whole aspect of the place is such as befits the capital of an active commercial community. Along the water-side are wharfs, stores, ship-yards, mills, &c. The present population of Sydney, with its wide-spreading suburbs, is upwards of 100,000.

Port Jackson, which stretches for many miles inland, expands from a width of three-quarters of a mile at the entrance into a spacious and

deep basin, so that ships of large size come close up to the wharfs. A short distance south of Port Jackson is Botany Bay.

The other towns in the colony are all of small size: most of them are situated either on the coast, or at short distances in the interior. *Paramatta*, at the head of Port Jackson (eighteen miles distant from Sydney), has about 5000 inhabitants, and is connected with Sydney by railway. *Windsor* (twenty-eight miles north-west of Sydney) lies on the Hawkesbury River, which is navigable to this point for vessels of 100 tons burden. *Liverpool*, to the westward, and *Campbelltown*, to the south-west, of the capital, are small inland towns.

To the north of Sydney, at the mouth of the river Hunter, is *Newcastle*, a flourishing place, with valuable coal-mines in its vicinity, and forming the outport of an important agricultural district. Further to the north occur, in succession, Port Stephens, Port Macquarie (at the mouth of the Hastings), and the valleys of the Macleay and Clarence rivers.

The largest town in the interior of the colony is *Bathurst*, situated beyond the Blue Mountains, 100 miles W.N.W. of Sydney, on the banks of the Macquarie river. *Goulburn* (108 miles S.W. of Sydney) and many other thriving towns are of considerable local importance.

2. QUEENSLAND.

(877.) *Boundaries and Extent.*—The province — formerly the Moreton Bay district of New South Wales — was in 1859 constituted a distinct colony. Queensland lies to the north of New South Wales, and includes the eastern seaboard of the Australian continent from the headland known as Cape Danger (lat. $28^{\circ} 10'$) northward. The proposed boundary between the two colonies, commencing at Cape Danger, follows a direction of W. S. W. as far as the upper course of the river Darling, and thence coincides with the line of the 29th parallel, until it meets the eastern boundary of South Australia.

Natural Features, &c.—The fine inlet of *Moreton Bay*—sheltered from the open expanse of the Pacific by Moreton and Stradbroke islands—forms a conspicuous feature in the maritime division of this province. Moreton Bay receives the river Brisbane, and also (further south) the smaller stream of the Logan. Hervey Bay and Keppel Bay are further to the northward, the latter immediately under the Tropic of Capricorn. The river Fitzroy falls into Keppel Bay.

The maritime portion of Queensland is limited, at some distance inland, by ranges of high ground, which form part of the prolonged cordillera of eastern Australia (Art. 864). Beyond these heights, as in other parts of the continent, are the open plains of the Australian "bush," stretching far into the hitherto but partially explored interior. Hilly and watered districts alternate, at intervals, with the more level plains.

The climate of Queensland, from its more northwardly situation, is hotter than that of New South Wales, and this province makes more approach, both as respects climate and produce, to the characteristics of the torrid zone. The mean annual temperature of Moreton Bay is 61° (which, however, is only three degrees higher than that of Sydney), the mean of the hottest month 78°, and of the coldest 54·5. The annual fall is said sometimes to exceed 63 inches. Both soil and climate are well suited to the growth of the cotton-plant, which promises to become an important staple of colonial produce and export. All the fruits and grains of the warmer latitudes of the globe flourish, together with many of those which elsewhere are only found to thrive within the tropics. The orange, fig, peach, and other rich fruits of southern Europe display the most luxuriant growth. The Moreton-Bay pine (which attains a height of 150 feet), and several varieties of cedar, are among the native woods. Sheep-farming is pursued here, as in other parts of Australia, on a scale of great extent.

The capital of the province of Queensland is *Brisbane*, situated on the river of that name, a short way above its mouth. *Ipswich* is at some distance in the interior. To the northward, the most distant stations hitherto occupied by the settlers extend to the banks of the Fitzroy River and the shores of Keppel Bay.

3. VICTORIA.

(878.) *Boundaries and Extent.*—Prior to 1850, the province of VICTORIA—then known as the district of Port Phillip—formed a portion of New South Wales. It now constitutes a distinct colony, and has become, since the discovery of its rich gold-fields, the most populous and important of the British settlements in this part of the world.

The colony of Victoria embraces the south-eastern portion of the Australian continent—extending along the south coast from Cape Howe to the meridian of 141°, which marks its frontier on the side of South Australia. Upon the north, the course of the river Murray divides it from New South Wales. The total area of the province is about 98,000 square miles.

Natural Features, Climate, &c.—The greater part of Victoria has a highly diversified surface, and the province, on the whole, exhibits greater varieties of formation—with more frequent alternations of hill and valley, and a larger proportion of fertile soil—than any other part of Australia.

The range of the Australian Alps extends through the eastern portion of Victoria. The tract lying between these mountains and the sea (extending from the neighbourhood of Cape Howe to Cape Wilson, the most southern point of the continent), generally known as Gipps Land, is a highly picturesque and fertile district, in many parts abundantly covered with timber.

The western part of the province includes the hilly tracts called the Grampians and Pyrenees; these are watered on their northern slope by streams which belong for the most part to the basin of the Murray, and to the southward by rivers which flow directly towards the coast. Amongst the latter, the longest is the river Glenelg, which enters the sea immediately adjacent to the western frontier of the colony.

The coast of Victoria contains several good harbours, the largest of which is the fine inlet of Port Phillip. From an entrance only a mile and a half wide, Port Phillip expands into a spacious and perfectly land-locked basin, upwards of thirty miles across in either direction, and in which ships may anchor safely in any weather. To the eastward of this inlet is Western Port, also of large size. East of the promontory which terminates in Cape Wilson is Corner Inlet.

The climate of Victoria is milder than that of New South Wales. The mean annual temperature of Melbourne (in $38^{\circ} 18'$ s. lat.), is 57° , the mean of summer $64\cdot8$, and that of winter $48\cdot7$. The range of temperature is thus restricted within narrow limits, the difference between the mean of summer and winter being only 16° , and that between the hottest and coldest month only $18\cdot9$. Sudden changes from heat to cold, or the reverse, are, however, frequent in the interior. The average heat of summer is perhaps scarcely greater than that experienced in the south of England; but hot winds occasionally blow from the interior, and raise the temperature to an extraordinary and painful degree. On the whole, however, the conditions of the climate are healthy. The atmosphere is generally dry. The quantity of rain which falls annually is little more than thirty inches: prolonged droughts are seldom experienced in this province.

Amongst the productions of Victoria, the first place is due to its seemingly exhaustless supply of gold. The gold-fields occur in widely-scattered localities, over the greater portion of the province, principally upon the inland slopes of the high grounds which occur in the neighbourhood of the coast. The richest of them is that which lies about the base of Mount Alexander, 70 miles to the north-westward of Melbourne. Ballarat, another of the auriferous regions, lies further to the southward, at a distance of 60 miles from Melbourne, in the direction of w. by n.

Between August 1851 and September 1854,—that is, in the first three years after gold had been found within the colony,—the gold-fields of Victoria yielded more than 9,000,000 oz. of the precious metal (equal to a value little short of 36,000,000*l.* sterling)! During subsequent years, the annual produce has averaged upwards of 10,000,000*l.* In the earlier years which followed the gold-discoveries, the gold was obtained almost exclusively by the process of washing the auriferous soil: the use of machinery for the purpose of crushing the quartz rock, in which the ore is uniformly embedded, is now, however, extensively adopted.

(879.) *Inhabitants*.—The population of Victoria amounted in June, 1859, to upwards of half a million (517,000). In the year 1846 (within eleven years from the date of its first occupation), the province had only 32,800 inhabitants; in 1851, the year of the gold-discoveries, the number had increased to 77,000. Between that date and the present time, the number has become multiplied nearly seven-fold. So rapid

an increase in population has no parallel elsewhere, excepting in parts of the North American continent.

It is to gold that (as in the similar instance of California, in the western world) the rapid increase in the population of this flourishing colony of the south is mainly due. A large proportion of the population are engaged upon the gold-fields, and there are more than 40,000 Chinese amongst the number.

Independently of its gold-fields, however, Victoria possesses all the requisites for a flourishing settlement, and had already attained a high degree of commercial importance before the discovery of gold quickened the tide of its prosperity. Sheep-farming, as in the neighbouring colony—and in a more considerable ratio—was the pursuit to which the energies of the colonists had been chiefly devoted, and upon which they still continue to be in great measure bestowed. For many years past, this colony has annually exported a larger quantity of wool than New South Wales has furnished. The gold discoveries have in no degree diminished the supply of this article,—so indispensable to the prosperity of our manufacturers of the West Riding. The quantity of wool annually exported from Victoria exceeds 25,000,000 lbs. The total value of exports is upwards of 15,000,000*l.* sterling, while the imports (chiefly articles of British produce) are of nearly equal value. Of so much importance to Britain is the prosperity of her colonies in this distant region of the southern hemisphere.

(880.) *Divisions, Towns.*—The seaward portions of Victoria are known respectively as the Port Phillip, Gipps Land, and Portland Bay Districts. The first-named is the tract of country about Melbourne, the two others are to the east and west of the capital. Inland, the more northerly portions of the colony are distinguished as the Loddon, Murray, and Wimmera Districts. Nearly the entire colony is now laid out in counties, though some portions are yet unsurveyed.

The city of *Melbourne*, the capital of the colony, lies about eight miles above the head of Port Phillip, on the banks of the Yarra Yarra river. It was only founded in 1837, and already contains more than 100,000 inhabitants.

At the point where the Yarra discharges itself into Hobson Bay—as the narrower inlet at the head of Port Phillip is termed—is *William's Town*, where ships receive and discharge their cargoes, since the river is only navigable for vessels of light draught. *Geelong*, the second city in the colony, is forty miles to the s. w. of Melbourne, at the head of an arm of Port Phillip, which forms its harbour. A railway connects Geelong with Melbourne.

Portland, in the more western part of the colony, is the principal place in the Portland Bay district—a fine tract of territory. A short distance east of it is *Belfast*, or Port Fairy. *Warrnambool*, a thriving seaport town, is further to the eastward. *Castlemaine* (65 miles n.w. of Melbourne) is the principal place in the Mount Alexander mining district—the richest of the gold-fields.

Railways to connect Melbourne with Castlemaine and other towns in the interior are in active progress. The wires of the electric telegraph already unite the capitals of the three principal Australian colonies—Melbourne, Sydney, and Adelaide.

4. SOUTH AUSTRALIA.

(881.) *Boundaries and Extent.*—The colony of South Australia lies to the westward of Victoria. From the southern shores of the Australian continent it stretches into the interior as far as the line of the 26th parallel, and is limited in the direction of east and west by the meridians of 132° and 141° .

The coast-line of South Australia includes the two great inlets of Spencer and St. Vincent Gulfs, and extends over a length of sixteen hundred miles. The total area of the province is 300,000 square miles: the surveyed portions are chiefly in the neighbourhood of Spencer and St. Vincent Gulfs (principally to the east and south-eastward of the latter), and are divided into counties.

(882.) *Natural Features.*—From Cape Jervis (at the south-eastern extremity of St. Vincent Gulf) a range of heights extends in a north and south direction into the interior, stretching nearly along the eastern shores of the gulf. Further to the northward the hills form two distinct ranges, which have been traced in the same northerly direction as far as the line of the 30th parallel. Their average height is moderate, and the higher summits are not in general more than from two to three thousand feet above the sea, though a few of them exceed the latter elevation.

In all the southern portion of this region the mountains are well grassed, and wooded to their summits, and the adjacent land is of the finest description—capable of producing rich crops of corn, fruits, and vegetables of every kind. In a few of the tracts along the coast the soil is thin, and the land covered with scrub (or brushwood); upon the eastern side of the range there are excellent sheep-runs, besides good tracts of land immediately adjacent to the banks of the Murray.

To the east of the upper portion of Spencer Gulf the hilly district is also of generally fertile character. The mountains are here rocky and precipitous on their western side, with deep ravines, bordered by large gum-trees; and at their base are alluvial flats, or plains, covered with grass, and diversified at intervals by a fine flowering scrub. There is plenty of good water in this district during the winter season, but in summer it can only be had by digging. The ranges more to the eastward are also well wooded, and exhibit gum-trees of magnificent growth.

At a further distance in the direction of due north, the country changes for the worse: the hills diminish in height, and become more detached, with sterile valleys between, and water is of rare occurrence. But an extensive tract of hilly, well-grassed, and watered land has recently been discovered (by Stuart, in 1858), in a direction to the north-westward of Spencer Gulf, at a considerable distance in the interior, beyond the limits of any previous exploration.

York Peninsula, which intervenes between St. Vincent and Spencer

Gulfs, is a level tract of country, great part of it covered with scrub, but with grassy plains at intervals. It is chiefly occupied by sheep-runs.

The country lying on the western sides of Spencer Gulf is known by the name of Eyre Land. Port Lincoln, upon the western shores of Spencer Gulf, in the southern part of this tract, forms a magnificent natural harbour.

The lower portion of the Murray—the longest river of Australia—lies within this colony. This stream, together with the lake through which it passes immediately above its mouth, has been described in Art. 865. It is navigated by steamers, above Lake Alexandrina, for within 150 miles of its source.

(883.) *Climate, Productions, &c.*—The climate of South Australia greatly resembles that of Sicily and Naples. During nine or ten months of the year it is in the highest degree agreeable, the only unpleasant season being during the heat of summer, in the months of December, January, and February, when the sun attains an excessive power, and the natural heat is augmented by hot winds from the deserts of the interior. The mean annual temperature of Adelaide (the capital of the province) is 65° , the mean of summer 82° , and of winter 56° . The maximum heat (in the shade) shown by the thermometer during a period of ten years was 102° , and the minimum 45° . The rains fall chiefly during the winter months, and the mean quantity which occurs annually is a little more than 21 inches (the same as at London and many other places in our own country). Such droughts as occur in New South Wales are unknown here, and the quantity of rain, within the settled districts, is nearly always sufficient to afford the requisite nourishment to the crops. The greatest quantity within any one year (during a series of observations extending over eleven years) was 26.1 inches, and the least 17.1, showing on the whole a remarkable uniformity. The general dryness of the atmosphere is, however, remarkable, and is the chief cause of the perfect salubrity of the climate.

The vegetable and animal productions of this province present no material difference from those of the adjacent colonies. The timber is chiefly of the genus *eucalyptus*, or gum-tree: the stringy bark is the most generally useful, on account of its easy splitting. It is well adapted for making fences, for roofing houses, and indeed for all kinds of building purposes. The red and white gums are also useful for building purposes, and for making furniture: though rather heavy, they are well adapted for ship-building.

But the abundant mineral resources of the province are its most striking feature, and are in the highest degree valuable. The mountains which extend along the shores of St. Vincent's Gulf, and thence northward as far as Mount Bryan (lat. $33^{\circ} 26'$, long. 139°), are the chief seat of the metalliferous deposits. Copper-ore is here found in extraordinary abundance, and of the very finest quality. Lead-ore of superior quality occurs abundantly in the neighbourhood of Mount Barker (to the eastward of Adelaide) and in other localities. Both the copper and lead mines (especially the former) have been extensively worked since the year 1844. The other metallic ores found in the colony are iron, manganese, tin (in small quantity), antimony, titanium, and quicksilver. There are a vast variety of earthy minerals, as quartz, opal, calcedony, tufa, jasper, and numerous kinds of clay; with several precious

stones, including the beryl, tourmaline, and others. Granite and other primary rocks occur in many places, and slates of every description are extensively dispersed throughout the mountain ranges. Quarries of excellent slate are worked in several places.

(884.) *Inhabitants.*—In 1860, the population of South Australia exceeded 120,000. Above a third of the number are natives of the colony: the other two-thirds chiefly emigrants from Britain. There are several thousand Germans, and the city of Adelaide includes a motley assemblage of people of various nations. The total number of aborigines is between three and four thousand: many of them are employed in the service of the settlers, as shepherds, stock-keepers, &c., and some render assistance as reapers, during the period of harvest.

South Australia is a more strictly agricultural province than any other of the Australian settlements; a great deal of excellent wheat is grown, and, next to copper-ore, the produce of the soil constitutes the staple wealth of the colony. Great numbers of sheep and cattle are also reared. Prior to the rapid increase of population in the neighbouring province—consequent on the gold discoveries—the wheat of South Australia commanded a high price in the London market, and was also exported to the Mauritius and other localities. But it is now in exclusive demand for the population of Melbourne and the various gold-fields.

The value of the copper annually exported from South Australia exceeds 300,000*l*. The most productive of the mines is the Burra-Burra, which lies at a distance of ninety miles in a direction of north by east from Adelaide. The working of this mine was only commenced in 1845. The quality of the ore varies from that which contains 30 per cent. of metal to some which has as much as 70 per cent. Until lately, all the ore was sent to Swansea to be smelted, but there are now extensive smelting-works within the colony.

The chief articles of export from South Australia are copper, wool, wheat and flour, tallow, and lead. The imports are principally manufactured goods, every description of which is supplied from the mother country. An extensive commercial intercourse is carried on with the British possessions in the East Indies, the Mauritius, and the Cape of Good Hope, and also with the United States.

(885.) *Divisions, Towns, &c.*—The settled portions of the colony are divided into counties. One of these is on the south-western shores of Spencer's Gulf: the others are situated to the eastward or south-eastward of St. Vincent's Gulf, and extend in the latter direction as far as the eastern frontiers of the colony.

The capital of South Australia is the city of *Adelaide*, situated at a distance of four miles from the eastern shore of St. Vincent's Gulf, on the banks of the river Torrens. Adelaide has upwards of 20,000 inhabitants, and is in every respect a thriving and important seat of trade. The streets are wide and straight, and both shops and private dwellings are numerous and well-built. The Torrens is only an insignificant stream (excepting when swelled by the winter rains), and becomes in the summer a mere chain of ponds, but the city is connected by railway with Port Adelaide, which lies on St. Vincent's Gulf, at a distance of eight miles to the north-westward. At the same distance to the south-west of the capital is the small town of *Glenelg*, on the shores of Holdfast Bay, as that portion of the gulf is called.

New townships and villages have sprung up in all the settled districts of the colony, especially in the neighbourhood of the mines. *Koorunga*, at the Burra-Burra mines, *Gawler* (twenty five miles to the north by east of Adelaide), and *Macclesfield* (among the Mount Barker range of hills, to the s.e. of Adelaide), are among the most important of the interior townships. *Port Elliot*, at the seaward entrance of Lake Alexandrina, is a thriving seat of trade — the outlet for an extensive and rapidly-advancing agricultural district. Thence to the south-eastern frontier of the colony, the Mount Gambier district, as that tract of country is called,—past the shores of Guichen and Rivet Bays,—is already occupied by the farms of the settlers.

Port Lincoln, upon the south-western shores of Spencer's Gulf, is the principal place in an important and thriving district.

Kangaroo Island, which lies off the entrance to St. Vincent's Gulf, is ninety-six miles long, with an average breadth of about twenty-three miles,—excepting towards its eastern extremity, which forms a peninsula connected with the remainder of the island by a very narrow neck of land. Its interior is a high table-land, mostly covered with scrub. The principal settlement is *Kingscote*, on the shores of Nepean Bay, upon the north-east coast of the island. Kangaroo Island is partially occupied by sheep-runs.

5. WESTERN AUSTRALIA.

(886.) In a general sense this province includes all that portion of the Australian continent which lies to the westward of the 129th meridian. But the only part of Western Australia occupied by colonists is its south-western corner, — to the southward of the parallel of 30° , and to the west of the meridian of 120° . This comprehends the Swan River settlement, which was established in 1829.

The coast of this territory includes the inlets of Geographe Bay, on the westward, and King George's Sound, upon the south. In the interior are ranges of low hills, running in a north and south direction; the chief of these is the Darling Range, already mentioned (Art. 864). The principal stream in the colony is Swan River, which is subject to sudden and tremendous floods, but is in other respects of little importance. All the rivers met with towards the interior are either wholly or partially dried up in the summer, and there are numerous shallow lakes of similar character. Most of the streams are, in fact, mere surface-drains, flooded in heavy rains, but not supplied by any perennial springs.

Within the limits of the settled districts the land is in general of only moderate fertility. There are occasional patches which possess a superior character, and which consist of really excellent land, but they are interspersed among inferior districts of vastly greater extent, and this settlement includes a much less proportion of available soil than any other of the Australian colonies. In the neighbourhood of the coast the land is generally poor and barren, but at a distance of fifteen or twenty

miles inland there are some fertile tracts. At a greater distance in the interior, however, beyond the sources of the streams which flow towards the coast, the soil seems to be altogether sterile; and the eastern plains form, in fact, a perfect desert, in so far as they have yet been explored.

The climate of this territory presents no material difference from that of other parts of Australia. At Albany, on King George's Sound, the mean annual temperature is 60° ; at York, in the interior of the colony, it is 65° . During the summer the thermometer sometimes stands as high as 105° in the shade, but the land and sea-breezes are experienced along the coast, and the mornings and evenings are cool and pleasant. During the winter, or rainy season, the prevalent winds are from the western quarters of the heavens. In general, the sky is clear, and the atmosphere almost uniformly dry and healthy.

Good coal has been found in the neighbourhood of Swan River. Cinnabar is found, and iron, copper, and lead, all occur. Copper-ore is now, indeed, among the exports of Western Australia.

The population of Western Australia is little more than 14,000, exclusive of about 1500 natives. The progress of the colony has been slow from the commencement, and does not appear to have been commensurate with the extent of natural resources which it unquestionably possesses; owing, probably, in great measure to the scanty supply of labour. Good wheat is grown, as well as barley, and many of the finer fruits thrive. The vine has of late been somewhat extensively cultivated; the fig and the olive are also found to flourish. The herbage is generally scanty, but the number of live stock is nevertheless considerable, and wool has constituted the staple export of the colony. An active traffic is maintained with Singapore and the Mauritius, to the latter of which places, sheep, bullocks, and potatoes, are exported. Sandal-wood is exported to Singapore and China: this wood is abundant in the colony, and there are some other kinds of valuable timber, particularly a tree known as the *jarrah*, which is well adapted for ship-building.

The most important parts of the settlement are those in the neighbourhood of Swan River, on the west, and King George's Sound, on the south coast. The capital of the colony is the town of *Perth*, on the northern bank of Swan River, at a distance of nine miles from the sea. *Freemantle*, at the mouth of the river, constitutes its port. *Guildford* and *York* are small settlements in the interior. Upon the coast, to the southward, is the settlement of *Australind*, of later origin. The principal settlement on King George's Sound is the town of *Albany*, a small place, situated on the northern side of the estuary.

The colony of Western Australia is now used as a convict settlement, the only one on the Australian mainland.

6. TASMANIA.

(887.) *Situation, Extent, &c.* — Tasmania, or Van Diemen's Land, is a large island situated to the southward of Australia, and separated from it by the channel of Bass's

Strait. From north to south it measures 180 miles, and about 160 from east to west; it has an area of 24,000 English square miles (equal to about three-fourths of the size of Ireland).

The coasts of Tasmania are in many parts high and bold, presenting steep promontories to the waters of the surrounding seas. The principal inlets are *Storm Bay*, on the south-east; *Oyster Bay*, upon the same side of the island, further to the northward; the estuary of the *Tamar*, on the north coast; *Macquarie Harbour* and *Port Dore*, both large inlets, upon the west and south-west shores.

Tasman peninsula—a tract of singular conformation—lies to the eastward of Storm Bay. A narrow isthmus (measuring only 120 yards across) unites it to Forestier peninsula, which is connected with the main body of the island by a neck of land less than half a mile in width. Further to the northward is Freycinet Peninsula, upon the east side of Oyster Bay.

The considerable island of *Bruni* (thirty miles long) lies off the south-east coast of Tasmania, and forms the western side of Storm Bay: it is separated from the mainland by D'Entrecasteaux Channel, a deep and navigable arm of the sea. Off the east coast, to the northward of Tasman Peninsula, is *Maria Island*. At either extremity of Bass Strait there are groups of islands: those to the eastward are called *Furness Islands*, the largest of which bears the name of Flinders Island. At the western end of the channel, and lying off the n. w. point of Tasmania, is the group of *Hunter Islands*; and further out, in the middle of the strait, is *King's Island*, of larger size. All these islands exhibit a diversified and hilly surface.

(888.) *Natural Features, Climate, &c.*—The interior of Tasmania presents a diversified aspect, high ranges of hills and insulated summits alternating with deep and beautiful valleys, or with extensive plains. The southern and western portions of the island, especially, are distinguished by the bold and commanding character of their scenery.

The mountains of Tasmania form part of the same system as the eastern cordillera of the Australian continent, and they exhibit the same geological characteristics. The channel of Bass Strait forms merely a superficial interruption to the continuity of the chain, which reappears in Cape Portland, at the n. e. extremity of the island. Various spurs from the mountain-chain cover the whole north-eastern section of Tasmania: amongst them is the peak of Ben Lomond, which rises to 5000 feet above the sea.

Through a great portion of its course across the island, the crest of the mountain-chain (which has a general direction of n. e. and s. w.) has a mean height of 3500 feet. One of its eastward spurs terminates in Mount Wellington (immediately at the back of Hobart Town) 4200 feet above the sea. The upper portion of Mount Wellington is covered with snow during eight months of the year.

The two principal rivers of Tasmania are the Derwent and the Tamar. The *Derwent* (130 miles long) issues from Lake St. Clair, in the centre of the island, and flows in a south-easterly direction into Storm Bay, forming in the last five-and-twenty miles of its course a noble estuary, of

several miles width. The names of the Dee, Ouse, Shannon, Clyde, and Jordan, have been given to its principal tributary streams.

The *Tamar* is formed by the junction of the North and South Esk rivers, whence it flows northward into Bass Strait, forming throughout an estuary of sufficient depth to admit the passage of vessels of 500 tons burden. The North and South Esk derive their waters chiefly from the north-eastern corner of the island; the Macquarie River is a considerable tributary of the South Esk.

Streams of inferior magnitude water other portions of the island: the *Huon River*, which flows into D'Entrecasteaux Channel, in the south-east, forms a fine estuary in its lower course. Lakes are numerous in most parts of the interior; many of them lie embosomed in deep basins or valleys, surrounded by well-wooded heights, and in the midst of scenery which presents almost every charm in the aspect of external nature.

The mineral productions of this country are various. Trap rocks are extensively distributed, and granite occurs in several places. Limestone is also abundant. Iron ore, of very pure quality, and some of it highly magnetic, is of very general occurrence. Copper is found in the hills near the north coast, and there are indications of lead, zinc, and manganese. Coal of good quality is worked on the east coast of the island, and is traceable over a large area of country, in seams varying from a few inches to ten feet and upwards in thickness: this mineral appears to be very generally distributed throughout the island. Salt is obtained in some of the interior plains.

The *climate* of Tasmania nearly resembles that of the south and south-western parts of England. Its higher latitude makes the air cooler than in the neighbouring Australian continent, and its strictly insular character causes it to possess a greater amount of moisture. Hence the superior vigour of its native vegetation, and the greater extent of its forests.

The mean annual temperature of Hobart Town is $52^{\circ} \cdot 3$, the mean of summer 63° , and of winter 42° . During the latter season severe frosts are sometimes experienced in high and exposed situations, and a good deal of snow falls; but the snow never lies on the lower grounds during the day. The winter is in general a season of moderate and genial rain: occasional rains, with high winds, occur during the spring, but the weather is usually bright and clear. During the summer and autumn months the atmosphere is almost uniformly clear and transparent, and the sky free from clouds and vapours. The mean quantity of rain which falls annually is from 35 to 43 inches.

In its general character the vegetation of Tasmania resembles that of the Australian continent: the trees are all evergreens, and their foliage has hence a dark and sombre hue, though in the highest degree rich and luxuriant. The timber possesses a high degree of value: dense forests occur in many localities, and consist of trees which are useful either as building materials, or from the ornamental grain of their wood, which fits them for the purpose of the cabinet-maker. The most prevalent trees are eucalypti, acacias, mimosas, pines, and myrtles.

Among the more valuable members of the Tasmanian forest are the blue gum, the stringy bark, the blackwood, the muskwood, Huon pine,

cedar pine, calery pine, pinkwood, rosewood, myrtle, and a variety of trees which yield gums and resins. The blue gum furnishes a timber which is equal to oak for the purpose of ship-building, and may be obtained of large dimensions up to lengths of two hundred feet. The string-bark is chiefly used for house-building and fencing. The blackwood is hard, close-grained, and richly-veined wood, admirably suited for ornamental cabinet work: the Huon pine, the muskwood, and the myrtle serve for similar purposes. The muskwood grows only in dense forests and in damp situations. The myrtle of Tasmania often forms dense forests, many miles in extent, and the individual trees attain a height of thirty or forty feet, with a proportionate elevation: its wood is of a fresh pink colour when newly hewn, and is beautifully veined.

The native animals are for the most part the same as those of Australia: there are three species of kangaroo, together with opossums, porcupines, wombats, duck-bills, and wild cats, the latter of which prey upon the poultry-yards. Of the opossums, that called the hyena-opossum (or tiger of the colonists) is very destructive to the flocks, but is now becoming scarce; and another animal belonging to the same genus (particularly known as the devil) is extremely ugly, destructive, and untamable. The smaller kangaroo-rats, opossums, and bandicoots, do serious mischief to the potato-crops. All the native birds of Australia likewise occur on this island. There are several kinds of snakes, with lizards and various smaller members of the reptile and insect tribes.

(889.) *Inhabitants.* — The native race of Tasmania is nearly extinct. When first the island was colonised, in 1803, it contained an aboriginal population of between three and four thousand; but a cruel war of extermination was carried on against them by the settlers, until in 1836 the few survivors — then about eighty in number — were removed, with their own consent, to Flinders Island, in Bass Strait. Thence, with a further diminution to little more than half that number, they have been subsequently removed to the settlement of Oyster Creek, on the shore of D'Entrecasteaux Channel.

The present population of the colony exceeds 80,000. A very large proportion of the number were originally convicts, since Van Diemen's Land continued to be used as a place of transport for criminals down to a recent period. But its employment for this purpose has now ceased — greatly to the social and moral welfare of the colonial population.

Tasmania is chiefly an agricultural colony: all the grain, fruits, and vegetables of middle and southern Europe are found to flourish. Excellent wheat is grown, and some of it exported. Wool forms, however, the staple article of produce, and has been largely exported to England: next in value is the produce of the whale-fishery, which is extensively pursued.

The commerce of Tasmania, like that of the neighbouring colonies, consists in the export of native produce, and the import of the manufactures of the mother country.

(890.) *Divisions, Towns, &c.* — The surveyed portions of Tasmania are divided into counties.

The capital of the colony is *Hobart Town*, situated on the right bank of the river Derwent, on the south-eastern side of the island, and about twenty miles above the mouth of the river, which is sufficiently deep to

allow of the largest vessels coming up to its wharf. Its population exceeds 20,000. *Launceston*, at the head of the estuary of the Tamar, on the northern side of the island, is the second town in importance, and is a flourishing seat of trade: it has about 10,000 inhabitants. *Georgetown*, at the mouth of the same river, is also a thriving place. There are numerous small and flourishing towns in the interior of the island, most parts of which are traversed by good roads.

Port Arthur, upon the south coast of Tasman Peninsula, constituted the head-quarters of the former penal establishment.

(891.) **NORFOLK ISLAND**, a small speck in the open expanse of the Pacific (lat. $29^{\circ} 3' \text{ s.}$, long. $167^{\circ} 58' \text{ E.}$), at a distance of 900 miles from the east coast of Australia, was for some time annexed to the government of Tasmania, and used as a place of transportation for the worst description of criminals. It has since become the residence of the Pitcairn Islanders, who were removed thither in 1855.

Norfolk Island comprises an area of thirteen and a half square miles, the greater portion of which is level,—Mount Pitt, the highest eminence on the island, rising only to 1050 feet above the sea. Norfolk Island is well watered, and the soil generally fertile: its most characteristic production is the splendid species of pine to which its name has been given (the Norfolk Island pine, or *Araucaria excelsa*), the timber of which is of the most valuable kind. The iron-wood and white oak also furnish good timber, and both red and yellow ochre are among the produce of the island.

(892.) Each of the six countries described in this section—namely, New South Wales, Queensland, Victoria, South Australia, Western Australia, and Tasmania, constitutes a distinct colony, and forms an integral part of the British Empire. Until 1850, the government of each province was administered solely by means of a Governor appointed by the Crown. But the power of self-government was then conferred upon the Australian settlements, each of which—with the exception of Western Australia, at present but thinly peopled—now possesses an independent legislature, elected by the colonists. The executive authority is vested in the Governor of either colony. The Governor of New South Wales ranks as Governor-General of all the British possessions in Australia.

The Australian colonies constitute seven dioceses of the English Colonial Church,—forming the bishopricks of Sydney, Newcastle, Brisbane, Tasmania, Adelaide, Melbourne, and Western Australia, the bishop of Sydney ranking as metropolitan. The diocese of Newcastle embraces the northern portion of New South Wales, the greater size and population of that colony having made it requisite to divide it into two sees. The diocese of Brisbane corresponds to the newly formed colony of Queensland,—formerly Moreton Bay.

Extensive assistance is afforded by government, in aid of local efforts, towards the establishment both of churches and schools in each of the colonies,—the assistance being granted to the members of the various dissenting bodies, as well as to those belonging to the English Church. Educational establishments—some of them of a high degree of excellence—have increased in all the colonies of late years, though there is still ample room for the exercise of further efforts in this respect.

CHAPTER XVIII.

POLYNESIA.

(893.) This division of the globe includes the numerous islands that are scattered over the vast expanse of the Pacific Ocean, between the shores of America on the one side, and the Asiatic coasts and islands upon the other. By far the larger number of the Polynesian groups are composed of islands of small size—in many cases mere specks upon the surface of the water, and the proportions of which are altogether insignificant compared to the immense area over which they are dispersed. New Zealand, however, in the southern half of the Pacific, is of much larger proportions, and the more westerly division of Polynesia,—towards the shores of Australia and the islands of the Eastern Indies—embraces some tracts of land of considerable extent.

The name of Polynesia—or “many islands”^{*}—expresses with fidelity the distinguishing characteristic of this widely-extended region, as also does that of Oceania, applied to it by some geographers.† The native races by which the larger part of Polynesia is inhabited are altogether different from the native inhabitants of Australia. They belong, for the most part, to the Malay (or brown) variety of the human family, and speak dialects that are closely allied to the Malay tongue. These brown-coloured tribes are distributed over a vast area, extending from New Zealand to the Sandwich Islands, in the direction of north and south, and including the greater number of the island-groups that lie in the Southern Pacific.

The more westerly division of Polynesia, however, in-

* From the Greek, *πολυς* many, *νησος* island.

† The “Oceania” of French geography is made to include, besides Polynesia proper, and the islands of the East Indian archipelago, the whole of Australia and the adjacent islands, which we have treated as a separate division of the globe.

clusive of Papua or New Guinea, and the adjacent countries to the eastward, as far as the group of the Feejee Islands, is peopled by tribes of black colour, to whom (from their close resemblance to the negro race) the name of Austral-negro is generally applied. These Papuan or black races belong to the same variety of the human family as the native man of the Australian continent.

The line of the 180th meridian nearly divides (in this part of Polynesia) the brown and the black races, the islands of the Feejee group being the most easterly of those in which the black tribes are found.

We shall describe this division of the globe under three headings,—1. New Zealand and the adjacent islets: 2. The smaller islands of Polynesia that are inhabited by the brown or Malayan race:—and, 3. New Guinea, together with the neighbouring islands in which the black tribes are found.

SECTION I.—NEW ZEALAND.

(894.) *Situation and Extent.*—New Zealand lies to the south-eastward of the Australian continent, and is surrounded on all sides by the Pacific Ocean. Its most northern point is in $34^{\circ} 23'$ s., and its southern in $47^{\circ} 19'$; so that it extends through nearly thirteen degrees of latitude, and measures, in a curved line drawn through the centre of the land, more than eleven hundred miles in length. Its breadth is very various, and does not, in the widest part, exceed 150 miles.

New Zealand consists of two islands of very large size, and one of much more moderate dimensions; besides several small adjacent islands. The two larger islands are separated by the channel of *Cook Strait*, and the more southward of them is divided from the third island by *Foveaux Strait*. The three islands are now generally known as the North, Middle, and South Islands.*

The North Island of New Zealand has an area of about 54,100 square miles; the Middle Island of 44,500; and the South (or Stewart Island) of 900 square miles. The total area of the archipelago is therefore about 99,500 English square miles,—equal to a fifth part more than the superficial dimensions of Great Britain.

* The south island is also called by the name of Stewart Island.

The distance of New Zealand from the nearest part of the Australian coast is about eleven hundred and fifty miles, and from Tasmania upwards of nine hundred miles. A hundred and ten degrees of longitude (or nearly 6000 miles) intervene between New Zealand and the nearest portion of the American continent, so that it is in every respect a strictly insular region.

(895.) *Natural Features.* — The coasts of New Zealand are much indented, and present (especially upon the eastern side of the archipelago, and within Cook Strait), a great number of excellent harbours.

Among the more important inlets are the Bay of Islands, the Gulf of Hauraki, the Bay of Plenty, and Hawke Bay—all on the eastern coast of the North Island. Upon the eastern side of Cook Strait is Port Nicholson (on the shore of which the town of Wellington is situated); on its western side are Queen Charlotte Sound and other inlets. The narrowest part of Cook Strait is less than fifteen miles across, but it is for the most part of considerably greater breadth.

Banks peninsula lies on the east side of the Middle Island. Port Otago is a deep inlet on the same coast, further to the southward. Port Pegasus, on the south-east coast of Stewart Island, is a fine inlet, with deep water.

(896.) The interior of New Zealand is mostly hilly, and the land retains in many districts a truly mountainous character. Ranges of high land stretch through both of the two larger islands, in the general direction of their coasts, and there are in many places outlying summits of considerable elevation.

In the North Island, the mountains form several parallel ranges, with longitudinal valleys between. Mount Egmont, a detached mass upon the western side of the island, has an altitude of more than 8000 feet, and is covered in its upper portion with perpetual snow. Some summits in the mountain-region of the interior have an equal (if not superior) elevation, and one of them—Tongariro—is an active volcano. The western side of the North Island is generally bold and elevated.

In the Middle Island, the mountains form more continuous ranges and reach also a greater height than those in the North Island. The high grounds lie in general nearly along the western coast, and terminate on that side in bold and often precipitous headlands. To the eastward they form extensive upland plains, many of which constitute excellent grazing districts.

The more northerly portion of the Middle Island, however, is mountainous across its entire breadth: the snowy peak of Kaikoras, which rises above the tableland (in 42° s. lat.), is upwards of 9000 feet in height. All the higher portions of the western coast-chain rise above the snow line.

Amidst the mountain districts of either island there are found valleys of every variety of form; the predominant features are those of long, narrow, and deep ravines, which not unfrequently present the wildest aspects of natural scenery. The lower grounds are often marshy.

The geological formation of New Zealand is altogether volcanic. In the neighbourhood of Auckland, within the North Island, many extinct craters are to be seen, with masses of scorise lying around. Towards the central portion of the same island there are abundant evidences of more recent volcanic action, including numerous hot springs. The Middle

Island appears to exhibit fewer signs of volcanic origin. Slight shocks of earthquake have been frequently experienced in either island,—as well as, in some instances, shocks sufficiently severe to occasion alarm to the settlers.

The *rivers* of New Zealand are numerous, and are abundantly fed by the snows of the higher mountain-regions and the copious rains of the interior. Many of the streams are navigable for boats in their lower courses, but not for vessels of any magnitude.

Among the principal rivers in the North Island are the *Waikato* (about 170 miles in length), the *Wanganui*, and the *Manawatu* (140 miles), upon the western coast; the river *Hutt*, flowing into Port Nicholson, on the narrower portion of Cook Strait; the *Wairapara*, which waters a fine valley to the north-eastward of Port Nicholson; and the *Wai-ke*, or river Thames (sixty miles), which flows into the Gulf of Hauraki, on the east coast. The *Waikato* forms a fine harbour at its mouth, and may be ascended by vessels of 90 tons burden to a distance of 100 miles: it flows from Lake Taupo, in the middle of the island. Lake Taupo lies at an altitude of 1887 feet above the sea, and has an area of 300 square miles.

To the north-eastward of Lake Taupo there are numerous volcanic lakes, with hot springs in their neighbourhood. These lakes occupy circular basins; the largest of them is Lake Rotorua, which has an island in its centre.

The principal rivers hitherto explored in the Middle Island are the *Wairau*, which flows eastward into Cloudy Bay (on the western side of Cook Strait); the *Motuka*, flowing into Blind Bay; and the rivers *Buller* and *Grey*, both of which descend to the western coast, after watering considerable tracts of the interior mountain-region. The *Buller* (or *Kawa-tiri*) issues from some small lakes, and has a course of more than ninety miles, through a generally rugged and sterile country. The *Grey* (or *Mawera*), further to the south, waters a more undulating region, and its valley contains tracts of fine arable land, as well as extensive grazing districts. Lakes are numerous amongst the mountains of the Middle Island.

Valuable copper ore is found in many parts of New Zealand; iron appears also to be extensively distributed, and many other metallic products occur, as manganese, nickel, lead, bismuth, arsenic, sulphur, alum, &c. Copper and iron have been worked by the settlers, chiefly in the neighbourhood of Auckland. Gold has been found, to a limited extent, in the same locality. Good coal is also found in many places, both in the North and Middle Islands, and is already worked to advantage. Building-stone is abundant; various limestones occur, and granite forms the principal rock in some of the mountainous tracts of the Middle Island.

(897.) The *climate* of New Zealand nearly resembles that of England in regard to temperature; but it is moister, and the quantity of rain, as well as the average number of days upon which rain occurs, appears to exceed the proportions experienced in most parts of our own country. From the latter circumstance, the country is everywhere covered with verdure, and vegetation is particularly luxuriant; nor is the moisture so excessive as to be in any degree prejudicial to health.

At Auckland (lat. 36° 51') the mean annual temperature is 58·5, the

mean of summer 66·9, and of winter 50·7: there is thus only a difference of 16° between the mean summer and winter temperatures, and only a difference of 18·9 between those of the hottest and coldest months.

At New Plymouth (on the western side of the North Island) the climate is remarkably equable. During the coldest months snow is rarely seen, excepting around the sides of Mount Egmont: in July (which is the coldest month of the southern hemisphere) ice is occasionally found in the mornings, but rapidly disappears under a warm and bright sunshine, like that of an English September.

At Otago (lat. 45° 50'), nearly ten degrees further to the southward, the climate is sensibly colder, and in the mornings the thermometer sometimes descends below the freezing point, during the winter. But even here the weather is generally mild in the lower districts, though snow lies deep upon the upland plains. Throughout the islands, rain is most frequent during the winter months (those of June, July, and August), but frequent showers occur at all periods of the year. The wind often blows with great violence, especially during the early part of summer.

In the neighbourhood of Cook Strait the air is especially mild and agreeable. At Wellington, and along the whole adjacent coast, the natives plant their potatoes at all seasons of the year: the forest always remains green, and the opening of the flower-buds is merely a little retarded during the winter. The climate of every part of the colony has been found perfectly healthy, and is well adapted to European constitutions.

(898.) The *vegetable* productions of New Zealand include several kinds of valuable timber, chiefly from trees of the pine tribe, which are numerous in many parts of the islands, and often form forests of vast extent. Among them are the kauri, or yellow pine (confined to the North Island); the rimu, or red pine; and the kahikatea, or white pine. The pūriri, or iron-wood, is distinguished for its strength and durability; the rata and other trees possess similar valuable properties. The black birch is valued for ship-building. Palms are distributed over the northern half of the North Island.

But the native vegetation of New Zealand, although more varied than that of Australia, is yet singularly deficient in plants capable of being used as food. Ferns are abundant, and the roots of several species are extensively consumed by the natives as a means of sustenance. The taro plant (*arum esculentum*) also furnishes an edible root, and both this and the kumera, or sweet potato, are extensively cultivated by the natives. There is neither native fruit nor grain of any description. All kinds of European fruits and vegetables, with wheat and other cereals, are found to thrive luxuriantly. One of the most characteristic productions of the soil is the native flax, or *phormium tenax*, of which there are several varieties, and from the fibres of which a cordage of singular tenacity and strength is capable of being made. The natives make matting and a variety of other useful articles from this material.

In the *animal* kingdom there is in New Zealand a still greater paucity of indigenous life than in the vegetable, and the scarcity extends to individuals as well as species; hence the intense stillness experienced in the forests of that country—undisturbed either by the cry of wild animals, the song of birds, or the humming of insect life! The largest animal

found on the islands by the first settlers was the pig, which is probably not indigenous, though it has reverted to a wild state. Dogs are the only beasts of prey, and their abundance has in many districts materially diminished the number of ground-birds and other small members of the animal kingdom.

The marsupial family of quadrupeds, so abundant in Australia, does not extend to New Zealand, and indeed, with the exception of a few rats and mice, the hog and the dog are the only land animals. The feathered tribe are equally few in number; some of them, however, are song-birds. There are no serpents, or noxious reptiles of any description; a few lizards occur, but they are perfectly harmless. Fish are abundant on the coasts and in the rivers; eels are generally plentiful in the latter, and contribute largely to the food of the natives. Both the seal and the whale (the latter including the several varieties of the hump-backed, the sperm, and the black whale), frequent the shores.

(899.) *Inhabitants*.—The native inhabitants of New Zealand belong to the Malay family of nations, and are altogether a different race from the aborigines of the Australian continent. They are a fine, well-formed, tall, and muscular set of people, with a complexion which varies in shade from an olive or copper-coloured hue to a dark brown. Their countenances (especially those of the higher orders) are often very pleasing, and nearly always striking, animated, and intelligent; their hair glossy, black, and curling; and their general cast of features not materially different from the European standard. Some of the tribes manifest an inferior type, and exhibit traces of alliance with the Papuan race; but these are few in number. The name by which the native New Zealanders are properly known is Maories, and their language is called the Maori tongue.

The native population of New Zealand is less numerous than has been generally supposed, and it is, moreover, fast decreasing. In 1858, the natives had become reduced to 56,000 in number. By far the greater portion of them reside in the North Island, and especially in the more northern part of that island. In the whole of the Middle Island there are probably fewer than 3000 natives.

The New Zealanders possess many qualities superior to those of savage nations in general. They have considerable forethought and vigour of mind, and are hospitable, frank, generous, and keenly sensitive upon points of honour. They have, however, the vices as well as the better qualities of the savage; their passions are easily roused, and in the pursuit of revenge their bearing is marked by ferocity and cruelty. When first visited by Europeans, and for long afterwards, they were in the practice of cannibalism; but the indulgence of this taste has been discontinued for many years past, and they have been for the most part converted to Christianity.

The natives of New Zealand readily adopt such of the habits and pursuits of the European settlers as appear conducive to their own immediate advantage. In some districts they have considerable tracts of land under regular cultivation, and bring the produce of their fields to market. But the majority still preserve the habits of barbarous life, continue to reside in wretched hovels, go clothed in blankets full of vermin, help themselves to food with their fingers, out of a common

dish, and, in short, retain many of the most repulsive features of a savage race.

The New Zealanders are divided into tribes, each under its own head or chief, and its members bound together by a sort of clannish attachment. Their native *pahs*, or villages, are extensive collections of huts often strongly fortified with palisades.

(900.) *Colonists*.—The first organised settlement on the shores of New Zealand was established in 1839, previous to which date the few white residents were chiefly runaway sailors or other adventurers, convicts who had escaped from the penal settlements in New South Wales, and a few missionaries. In the following year (1840) the islands were formally declared a subject possession of the British Crown, and since that time settlements have been made at numerous points, both upon the shores of the North and the Middle Islands. In 1858, the total British population exceeded 61,000, the greater number of them located in the North Island.

The North Island of New Zealand appears to be that best suited for agricultural pursuits. All the eastern portions of the Middle Island, together with the extensive plains on the northern side of Cook Strait, are clothed with excellent natural pastures, and are admirably adapted for grazing operations,—especially for sheep-farming, which is carried on there upon a scale of considerable extent.

There are here no droughts, as in some parts of Australia. Excellent wheat and barley may be grown in most parts of New Zealand, and all the agricultural produce of England is found to flourish in the tracts suited for cultivation, as well as many productions of warmer latitudes. The grape ripens to perfection in the open air, and maize is capable of easy cultivation. Hops also grow well, and all the fruits and vegetables of southern Europe flourish. In its natural state much of the land is covered with a thick growth of fern, which requires to be cleared by burning before the ground can be brought under the plough. Large tracts also consist of forest-land or “bush,” and are covered with a thick growth of underwood and scrub.

The present exports of New Zealand are wool, and the produce of the whale fishery, with the native flax, kauri gum, and some copper and timber. Manufactured goods of every description are derived from the mother country.

(901.) *Provinces*.—New Zealand is at present divided into eight provinces, four of them in the North, and four on the Middle Island. Those in the North Island are Wellington, Hawke Bay, Auckland, and New Plymouth; in the Middle Island are Nelson, Marlborough, Canterbury, and Otago.

1. WELLINGTON, upon the eastern side of Cook Strait, was the first established of the New Zealand settlements, and is one of the most important and populous amongst them. The province includes a large amount of fertile land, especially within the valley of the river Hutt.

The town of *Wellington* lies on the west side of the inlet of Port Nicholson, which forms a splendid harbour. On the east side of Cook Strait, ninety miles to the north of Wellington, is the town of *Wanganui*, on a river of that name.

2. **HAWKE BAY** was included, until 1858, within the province of Wellington, and was known as the Ahuriri district. It embraces a portion of the eastern side of the North Island, including the extensive bay whence its name is derived. This tract of country is stated to be one of the finest in the colony. The chief town of the province is *Napier*.

3. The province of **AUCKLAND** embraces the northernmost portion of the North Island, and includes the government settlement, whence its name is derived. The town of *Auckland* is situated on the east side of a narrow neck of land which divides the Gulf of Hauraki from the harbour of Manukao, on the opposite coast. It is the seat of government for the entire colony, and is well adapted, by its command of either coast, for the purposes of general commerce. The trade of Auckland is already considerable, and is largely shared in by the natives. The town is well and compactly built. *Kororarika*, on the Bay of Islands, further north, is a dependency of this settlement.

4. **NEW PLYMOUTH**, founded in 1840, is situated on the west coast of the North Island, immediately at the northern foot of Mount Egmont. The soil in the neighbourhood of this settlement is of the highest fertility, and the natural vegetation generally abundant.

The town of New Plymouth is extremely picturesque; the settlers are chiefly engaged in agriculture, and produce abundance of corn, pigs, poultry, honey, and other articles. The chief defect of this settlement is the absence of any harbour.

5. **NELSON** is the northernmost province of the Middle Island. The town of that name lies on the south of Cook Strait, at the bottom of an inlet called Blind Bay. It was founded in 1841. There is abundance of good land in the immediate neighbourhood of Nelson, as well as extensive tracts suited for grazing at a further distance.

6. **MARLBOROUGH**, the most recently constituted of the New Zealand provinces, embraces part of the north-eastern division of the Middle Island. The town of *Blenheim* (formerly Beaverton), the provincial capital, lies a short distance from the western shore of Cook Strait.

7. The settlement of **CANTERBURY** was formed in 1850. The province comprehends an extensive tract of the country in the immediate neighbourhood of Banks Peninsula (on the east coast of the Middle Island), and includes an immense level plain—one of the finest grazing districts in the world. This plain is bounded to the west by the snowy ranges of the interior.

The town of *Lyttelton*, the shipping-port of the settlement, stands on the shores of Port Victoria, at the north-west angle of Banks Peninsula. A ridge of high ground, which rises to upwards of 1600 feet, rises immediately above the town to the northward. *Christchurch*, the capital, is situated a few miles inland.

8. **OTAGO**, the most southerly province in New Zealand, embraces part of the south-eastern coast of the Middle Island. It was founded in 1847 by a body of Scotch emigrants, in connection with the Free Church. It contains above 6000 settlers.

Port Otago, whence the name of this settlement is derived, is an extensive inlet, and makes a tolerably good harbour: the town of *Dunedin* lies at its head. There are fine plains, surrounded by grassy hills, within a few miles from the harbour, and large tracts of grazing land extend thence in the direction of Foveaux Strait. The town of *Invercaroill*,

upon the shore of this strait, is the chief place within the southern division of the Otago province — a tract of country which possesses great advantages of soil and climate, and is fast rising in importance.

New Zealand constituted, prior to 1852, a crown colony, administered by a governor and council. But a representative constitution was granted to the colony in that year. This embraces a general assembly, or parliament, consisting of a Legislative Council of not less than six members (appointed for life by the Crown), and a House of Representatives elected for a term of five years. Each of the provinces has also a Superintendent and a provincial council, the whole colony being under the executive administration of a Governor, appointed by the Crown.

The dioceses of New Zealand (of which Auckland is the seat), Wellington, and Waiapu, in the North Island, with Nelson and Christchurch, in the Middle Island, are included within this colony.

(902.) The Auckland Islands (lat. $50^{\circ} 30'$ s., long. $166^{\circ} 7'$ E.), a small group situated 180 miles to the southward of New Zealand, were discovered in 1806, at which time they were uninhabited. They are of volcanic formation, and have a wild and picturesque appearance. Their highest point is about 1350 feet above the sea-level.

These islands are visited by whaling-ships engaged in the neighbouring seas. A settlement, designed for the prosecution of the whale-fishery, was formed upon them in 1849, under the sanction of the British government, but, from its want of success as a mercantile speculation, was subsequently abandoned.

(903.) The Chatham Islands (lat. 44° s., long. $176^{\circ} 50'$ W.), situated 350 miles to the eastward of New Zealand, are enumerated among the dependencies of that colony. The group consists of three islands, one of them considerably larger than the others. They are occasionally visited by vessels that frequent the neighbouring seas. When first discovered, in 1791, they were inhabited by a native race, now nearly extinct.

SECTION II.—THE SMALLER ISLANDS OF POLYNESIA.

(904.) The smaller islands of Polynesia are scattered irregularly, and at long intervals apart, over the immense expanse of the Pacific Ocean. By far the greater number of them are situated to the south of the equator, and they are especially numerous in the belt lying between the 10th degree of south latitude and the Tropic of Capricorn, — or in the southern portion of the Torrid Zone.

The proportion borne by these islands to the entire area of the vast ocean in which they are embosomed is exceedingly small. They are, indeed, mere specks upon its surface. Under the line of the equator, between the coast of South America on the one side and the Mo-

lucas archipelago on the other, the Pacific stretches over a space of more than ten thousand six hundred miles—an uninterrupted expanse of water. And from Behring Strait (which divides the Old and New Worlds) on the north, the same ocean extends in unbroken continuity to the southern polar circle, and perhaps even to the pole itself,—including within its vast area more than seventy millions of square miles, or upwards of a third part of the entire surface of the globe. The Polynesian Islands are the only land that are found within these widely spread limits. This scattered island-world, however, possesses many features of interest peculiar to itself, and differs in almost every respect from other portions of the globe.

The greater number of the Polynesian Islands are comprehended within the ten following groups, three of which lie to the north, and seven to the south, of the equator:—The Sandwich Islands, the Caroline Islands, and the Ladrone or Marianne Islands (all situated in north latitude),—the Friendly Islands, the Samoa or Navigators' Islands, Cook Islands, the Austral Islands, the Society Islands, the Low Archipelago, and the Marquesas, all lying in the southern hemisphere.

(905.) The smaller islands of Polynesia are naturally divided into two classes—the *mountainous* islands, which are mostly of volcanic formation; and the *coral* islands, which are low reefs, only raised a few feet above the level of the sea. The Sandwich Islands, the Ladrone, the Society Islands, and the Marquesas, together with some of the Friendly, Navigators', and Cook Islands, are of the former character: the rest belong chiefly to the latter class, which includes the greater number of islands, though they are for the most part of exceedingly small dimensions.

The Sandwich Islands, situated between the parallels of 19° and 22° N., and the meridians of 154° and 161° W., exhibit a more truly mountainous character than any of the others, the principal summits in the island of Hawaii (or Owhyhee), the largest of the group, attaining an altitude little short of 14,000 feet,—an elevation the more striking when we consider that they rise immediately out of the waters of an unfathomable sea. The whole island of Hawaii is a mass of volcanic matter, and it contains an active volcano, named *Kilauea* (or *Kiraueh*), the eruptions of which are frequent, and of tremendous power. There are two active volcanoes in the group of the Friendly Islands, besides a few summits which emit smoke in some of the smaller islet-groups.

The Society Islands, in the South Pacific (lat. $17^{\circ} 40'$ S., long. 149° W.) are of equally varied surface, and the highest point of Tahiti (or Otaheite), the largest of the group, is 12,000 feet above the sea.

(906.) The coral islands of this region are generally of circular or semicircular form, consisting mostly of a low belt or reef, which encloses

a lagoon of smooth water, connected by an opening in the reef with the ocean outside. The islands of this description are distinguished as *atolls*, or lagoon-islands.

The outer curve of the semicircle, that is, the convex portion of the reef, is always found to occupy the windward side of the island, the opening in the line of reef being invariably situated to leeward. In some cases there is a double ring of coral, so as to enclose a lagoon of horse-shoe shape. The reef always slopes gradually on its inner side towards the lagoon, but rises abruptly from the deep bed of the ocean on its outer circumference. The height of the reef above the water rarely exceeds a few feet, and portions of it are in many cases covered at high water or during storms.*

Many of the coral reefs, however, both in the Pacific Ocean and elsewhere, exhibit a belt of coral, surrounding at some distance a mountainous island (of totally distinct formation), with a channel of deep water enclosed between the reef and the shore. These are known as *barrier-reefs*. The island of Bolabola (in the Society group) presents an example of the kind, as also do the reefs that everywhere surround New Caledonia, at a distance from the shore that varies from two to twelve miles.

A third class of reefs consists of those that are immediately attached to the main body of the enclosed island, forming as it were a fringe around its circuit. Such are the reefs that surround the islands of the Sandwich and Navigators' groups, in the Pacific, and the island of Mauritius, in the Indian Ocean. These are distinguished as *fringe-reefs*. In the case of these islands (and similarly in those of the second class) it is only through breaks or openings in the reef that the shore can be approached.

The coral reefs of the Pacific, as well as those in other parts of the globe, are all produced by the secretions of the coral-insect, and the process by which they are formed is one of the most curious and instructive phenomena which the natural world presents to view. The architects of these wonderful structures are *polypes* of minute size, and of various species, but all possessing a general similarity of form and structure. They consist, to appearance, of a little oblong bag of jelly, closed at one end, but having the other extremity open, and surrounded by tentacles (usually six or eight in number), set like the rays of a star. Multitudes of these tiny creatures are associated in the secretion of a common stony skeleton, that is, the coral, or madrepore, in the minute orifices of which they reside; protruding their mouths and tentacles when under water, but the moment they are molested, or become exposed to the atmosphere, withdrawing by sudden contraction into their holes. The coral-worm is unable to exist at a greater depth than twenty or thirty

* A few of the islands belonging to the coral formations are elevated from one to five hundred feet above the sea. These have evidently been raised at a period subsequent to that of their original formation, and exhibit a crystalline appearance. They consist of rocks which were originally coral, but in which the calcareous particles have been washed away, or removed by exposure to the air, so that the whole mass has become harder and brighter.

fathoms; so that the numberless coral islands of the Pacific and other seas must be based upon submarine mountains.

The process by which the reef of coral, when built up to the surface of the water, becomes gradually clothed with verdure, and converted into a spot capable of habitation, is highly interesting. The coral insect ceases to build upwards when the surface of the reef remains dry at low water, but its labours are continued in a lateral direction. The sea throws up, during storms, fragments of rocky matter, with shells, and various *débris*, and the influence of the atmosphere, aided by the sun's heat, covers the surface of the newly formed island with a calcareous soil, derived from the pulverisation of its different particles. The seeds of plants, brought by the winds and currents from distant regions, readily grow, and overshadow its dazzling white surface. Entire trunks of trees, carried by the rivers from other countries and islands, find here, at length, a resting-place; with these come some small animals, such as lizards and insects, as the first inhabitants. "Even before the trees form a wood, the real sea-birds nestle there; stray land-birds take refuge in the bushes; and at a much later period, when the work has been long since completed, man also appears, builds his hut on the fruitful soil formed by the corruption of the leaves of the trees, and calls himself lord and proprietor of this new creation." *

It is only within the warm latitudes that coral reefs—those composed, at least, of *living* coral—occur, since the coral-worm is a native of the tropical seas. They are confined within a belt of 30° on either side of the equator, with the single exception of the Bermudas (between 32° and 33° lat.), in the Atlantic Ocean.

(907.) *Climate and natural Productions.*—The climate of Polynesia is warm, but is tempered by the influence of the surrounding ocean: the degree of heat scarcely varies throughout the year, and a delightful serenity of atmosphere almost constantly prevails. At Honolulu (on the island of Oahu, one of the Sandwich group), the mean temperature of the year is $74\cdot9$, that of the summer quarter only $77\cdot6$, and of the opposite season $71\cdot6$, so that the difference between the warmer and the cooler portions of the year does not exceed 6° . It is, in fact, a strictly insular climate, in which an almost perpetual spring prevails, and which is free alike from the excessive heat and the periodical droughts of other countries situated within the tropics.

The climate of the Polynesian Islands, like that of the West Indies, is in large measure regulated by the trade-winds, which prevail throughout the warmer oceanic latitudes of the globe. These winds are perennial; one side of the island is consequently open to the constant influence of breezes that have blown over the neighbouring ocean,—an advantage which is denied to the opposite side. In other words, there is a windward and a leeward side of each island.

The trade-winds are constant currents of air which blow within certain latitudes of the Pacific and Atlantic Oceans, in a direction which, speaking generally, is from east to west, the same as that of the oceanic currents within correspondent latitudes. More precisely, the trade-

* Chamisso, in the "Narrative of Kotzebue's Voyages," 1815—18.

wind of the northern hemisphere is a *north-east wind*: that of the southern hemisphere, a *south-east wind*.

Within the northern hemisphere, the trade-winds blow, both in the Pacific and Atlantic Oceans, between the parallel of 3° or 4° north latitude and the parallel of 30° north. In the southern half of the same oceans, the region of the trade-winds extends from the neighbourhood of the equator to the parallel of 28° or 30° south. Neither the inner nor the outer limit of these winds is fixed, their extension to the northward or southward fluctuating (within a range of two or three degrees) according as the sun is to the north or south of the equator.

The trade-winds of the northern and southern hemispheres do not meet, but are divided, both in the case of the Pacific and Atlantic Oceans, by a narrow belt within which calms generally prevail. This zone of calms, as it is generally called, has an average breadth of three or four degrees. It lies, for the most part, upon the northern side of the equator, but is nowhere far removed from that line. Its precise limits in the direction of its breadth (i.e., north and south), undergo some variation with the movements of the sun from north to south declination or the reverse. When the sun is to the northward of the equator, both the zone of calms and the outer limit of the north-east trade wind (i.e. the trade-wind of the northern hemisphere) are carried a few degrees further to the northward than at the opposite season of the year: at the autumnal equinox, when the sun recrosses the equator, the limits of these atmospheric currents move back to the southward, with the transfer of the potent influence of vertical heat to the southern hemisphere.*

The trade-winds, of the Pacific and Atlantic alike, are explained by consideration of the uniformly high temperature which belongs to the atmosphere within and near the tropics, as compared with that of higher latitudes. Warm air is specifically lighter than cold air: hence if adjacent portions of air have different temperatures, there is a tendency for the warmer and lighter air to rise into the higher strata, and for the cooler and denser portion to spread over the lower strata of the whole. The warm air of intra-tropical regions has thus a constant tendency to rise, and the cooler air from the higher latitudes of either

* The existence of a calm belt in the immediate neighbourhood of the equator is readily accounted for. The temperature of the air, within a few degrees upon either side of the equator, is almost uniform, being, in fact, unvaryingly hot. There is here (in so far as temperature alone is concerned) no disturbing cause to affect the general equilibrium of the atmosphere. Hence there is no transfer of its particles from one part to another part, that is, no wind. The barometer undergoes remarkably little variation within the same region. With every successive degree of departure from the equator of temperature, both the decrease of heat on the average of the year, and the differences of seasonal temperature, become more and more strongly marked. As the differences of temperature between adjacent portions of the entire body of air become greater in amount, so are the causes which occasion winds called into more powerful operation. Within the calm latitudes, however, the prevailing stillness is at times interrupted by sudden and violent storms, probably of electrical origin.

hemisphere to set towards those regions, and take the place of the ascending currents,—itself to become subject, with gradual rise of temperature, under the influence of vertical (or nearly vertical) heat, to similar influences and movements. If the earth were at rest, the currents of air thus set in movement from the temperate zones of either hemisphere towards the equator, would be north winds in the one half of the globe, and south winds in the other half. But the rotation of the earth on its axis, in a direction to the eastward, occasions a deflection from this normal course, giving the advancing currents of air a partial movement in the opposite direction ; or, in other words, converting the trade-wind of the northern hemisphere into a north-east, and that of the southern hemisphere into a south-east, wind.*

In the mountainous islands of Polynesia the soil is almost uniformly fertile, and the vegetation rich and abundant. Almost every plant requisite for the food of man grows in spontaneous luxuriance, and some of the most valuable productions of the vegetable kingdom are peculiar to this part of the world. Among these is the bread-fruit tree, which supplies throughout Polynesia a principal article of native diet. There are also many esculent roots, as the kalo, or taro (*arum esculentum*), and others, which are extensively used as food, and which here take the place of the cereals and various food-plants of other regions ; besides a great number of fruits and vegetables which are shared with tropical countries in general. Tree-ferns are numerous, and often display exceeding grace of form, while many of the flowering plants and shrubs possess a beauty peculiar to this distant island-world.

Among the principal native plants of Polynesia are the bread-fruit, plantain, pandanus, cocoa-nut, arrow-root, yam, and sweet potato, which are common to all the islands ; the taro-root is found chiefly in the group of the Sandwich Islands, where it forms the common food of the natives. The only indigenous fruits in the Sandwich Islands, besides these, are a kind of native apple (called *ohia*), the wild strawberry, and a few other berries.

The sugar-cane, and nearly all the edible fruits and vegetables both of European and tropical climates, are found to flourish in every part

* In the case of the Indian Ocean, within correspondent latitudes to those over which the trade-winds of the Atlantic and Pacific prevail, the movements of the atmosphere are affected by the lands which enclose that ocean on three sides, and especially by those which limit its extent to the northward. These lands are periodically exposed to intense heat, with the alternate presence of the sun to the north or south of the equator. The winds which are hence generated, blowing from the ocean towards the land, become *periodical* winds, or *monsoons*, instead of perennial winds, like those of the two greater oceans. When the sun is to the north of the equator, the excess of heat over the lands of southern Asia causes a south-west monsoon : with the return of the sun to south declination, the north-east wind resumes its place.

of Polynesia, and have been extensively introduced into some of the islands. The orange, lemon, shaddock, lime, grape, citron, tamarind, pomegranate, custard-apple, mango-tree, fig and mulberry, besides the coffee-tree, cotton, tobacco, and indigo-plants, all grow luxuriantly, though none of them are indigenous to the soil. Wheat and barley are cultivated to a limited extent in the Sandwich Islands, as well as some of the other groups.

Of the larger form of vegetable life, the most common in these regions is the cocoa-nut palm, thick groves of which are everywhere seen. There are, besides, several forest-trees, among which are a kind of mahogany found in the Sandwich Islands, and extremely valuable for the purposes of cabinet-making, besides several species of acacia and mimosa, and many other woods of durable qualities serviceable for building timber and fuel.

The vegetation of the low coral islands is less varied, though equally striking and luxuriant. It is here that the cocoa-nut tree displays its fullest vigour, flourishing on the most barren and unsheltered sea-beach amidst fragments of coral rock and sand, and where its roots are washed by every advancing tide. The groves of cocoa-nut are seen gracefully rising above the level surface of the reef, and this tree is applied by the inhabitants of Polynesia to the same varied and useful purposes as in other parts of the oceanic world (Arts. 528—531.).

In the animal kingdom, Polynesia exhibits a great paucity of life, and an entire absence of all the larger forms of zoology. The largest quadruped found in a native state is the hog, and, besides this, the only land animals found in these islands when first visited by Europeans were the dog, mouse, and lizard, with a few species of the rat tribe. There were neither reptiles, nor insects; but mosquitoes, fleas, centipedes, and scorpions, have since been introduced. Birds are numerous, and include parrots and many others of beautiful plumage. The shores abound with sea-fowl, and the surrounding seas teem with excellent fish as well as an infinity of crustaceous and molluscan creatures, which the natives capture with great dexterity. The domestic cattle of Europe have been introduced into all the larger islands, which now possess the cat, sheep, goat, ox, horse, ass, mule, and all the varieties of poultry.

(908.) *Inhabitants.*—The natives of these islands belong (in common with the New Zealanders) to the Malay or brown division of the human family. The various dialects which they speak all bear a general resemblance sufficient to indicate their common parentage, and to exhibit their Malay origin,—an inference confirmed by numerous coincidences of manners, customs, and usages, which prevail throughout Polynesia.

The present population of Polynesia (exclusive of New Zealand and the countries inhabited by the black race), is probably little more than a quarter of a million, or at most three hundred thousand souls—an exceedingly small number, and one which shows a great decrease since the period when these islands first became known to Europeans, during the latter half of the last century. This diminution has been nowhere more apparent than in the Sandwich Islands, which, when discovered by Captain Cook (in 1778), contained from three to four hundred thousand inhabitants, while at the present time their population is

scarcely more than 80,000. In the Society Islands, again, the present number of the natives is little more than a quarter of what it was in Cook's time.*

The natives of Polynesia (or the South Sea Islanders, as they are frequently called) are naturally intelligent, and are manifestly capable of a high degree of intellectual culture. They display great skill in the construction and management of their canoes, as well as in the making of warlike implements and simple articles of clothing. Some of them are of much more warlike and barbarous habits than others, and the practice of cannibalism has been found to prevail in many of the islands.

Various forms of polytheism, or idolatry, were formerly common throughout Polynesia, and were connected with the most superstitious, barbarous, and degrading practices. The influence exerted over the minds of the natives by their priests was very great, and was in nothing more apparent than in the singular institution of *taboos*, which was universally adhered to throughout these islands. Anything *tabooed* (or against which a taboo had been pronounced) by their priests, or great men, was regarded as under the strictest prohibition, and became altogether forbidden to the use of the community. If a house was tabooed, they dared not enter it; if their taro-grounds, or their hogs, were tabooed, they relinquished them without a struggle; and when their *morais* (or temples) were placed under the dread injunction, they were afraid even to approach them. Many of these *taboos* were, in fact, of the most cruelly oppressive description. The distinctions of caste were also carried to an extreme extent, the priestly caste holding the highest rank, even above that of the native sovereign and the members of his family. The distinctions of native rank are all hereditary, the chiefs exercising a completely despotic authority.

But the habits and native institutions of Polynesia have during the last quarter of a century been materially modified by the influence of the missionary, under whose instruction a large number of the inhabitants of the island-world have been converted to Christianity. There are resident missionaries in nearly all the principal islands, and the native inhabitants of the Sandwich Islands, in particular, now present the aspect of a civilised and Christian community.

(909.) The SANDWICH ISLANDS are the most important of the Polynesian groups, and have acquired additional interest since the

* The causes of this decrease* among the natives were probably in operation for a long previous period, and received their final impulse from the various diseases introduced by contact with Europeans, as well as by habits of intoxication and other vices acquired from the lowest and most abandoned class of their visitors, as runaway sailors, escaped convicts, and others. But the frequent wars among the natives, the prevalence of infanticide among the women, and the extensive use of human sacrifices in the rites of their barbarous idolatry, manifestly tended to the same result, and are causes which date altogether from a prior period.

rapid colonisation of California, owing to the central position which they occupy in the North Pacific, on the direct line of commercial intercourse between the western coasts of America and the eastern shores of the Old World. They lie at a distance of eighteen hundred miles to the south-westward of California; of about five thousand miles to the north-west of the South American mainland; and at a similar distance to the eastward of China. They are naturally fitted to become (and are already in progress of becoming) a central emporium of commerce for the ocean side of our globe, and the link of communication between its eastern and western extremities.

The largest of the Sandwich Islands is Hawaii (at the south-eastern extremity of the group), which has an area of 4500 square miles. The other islands—advancing in succession to the north-westward—are Maui (or Mowee), Kahoolawe, Lanai (or Ranai), Molokai, Oahu, Kauai (or Atooi), and Oneehow. The entire area of the group is about 6100 square miles. They extend, in a curved line, for a length of four hundred miles, and appear as though they were the summits of two parallel ranges of volcanic mountains.

The island of Hawaii contains the two stupendous summits of Mowee Loa (13,760 feet in altitude), and Mowna Kea (13,950), beside the active volcano of Kilauea, the crater of which exhibits to view an immense lake of fire, or caldron of boiling lava, tossed in perpetual agitation. The highest summit on the island of Maui is 10,270 feet high, and the other islands of the group contain mountains of nearly equal altitude.

The entire group of the Sandwich Islands is of volcanic formation. At the first aspect, they exhibit to view (especially if approached from the westward, or leeward, side) nothing but bare and blackened rocks of lava, with steep volcanic ridges and irregular truncated cones, which descend to the sea in abrupt and jagged precipices. It seldom rains on the leeward side of these islands: and upon the western shores of Hawaii, not a single brook is discharged into the sea for more than a hundred miles of coast. But on the opposite or windward side there is frequent rain, and numerous cataracts are seen to leap down the sides of the hills. Sudden changes in the weather are unknown here, and the Sandwich Islands are in every respect one of the most healthy countries on the globe.

To the ordinary productions of Polynesia must be added, in the present case, gold, which has been discovered in the island of Hawaii. Salt is obtained in large quantities from a lake in the vicinity of Honolulu, on the island of Oahu. A good building material is supplied by blocks cut from the coral reefs found on the leeward side of the islands.

The population of the Sandwich Islands, according to an official census taken in 1849, was distributed in the following proportions:—Hawaii, 27,200 inhabitants; Oahu, 23,000; Maui, 18,700; Kauai (or Atooi), 6900; Molokai, 3400. Adding to these numbers the population of the smaller members of the group, we find a total of 80,640.

Honolulu, the principal port of the Sandwich Islands, and the most frequent resort of shipping, is on the island of Oahu: there are about 500 or 600 foreigners settled here. *Laheina*, on the island of Maui, is also a shipping-port of some importance. There are, besides, numerous small towns and villages on each of the islands, and at most of these are now to be seen churches, schools, and other evidences of civilisation.

Since the rapid increase of population in California and the adjoining coasts of the Pacific, the commercial traffic of the Sandwich Islands has largely increased, and almost constant communication is now maintained with San Francisco. A variety of articles are imported from California and other parts of the United States, as well as from China, Chili, and the various British colonies, with Great Britain and France. Some domestic produce is exported, consisting chiefly of sugar, molasses, with smaller proportions of coffee, salt, lime, beef, hides, tallow, goat-skins, potatoes, and various fruits.

The Sandwich Islands are under the government of a native king, and have been recognised as an independent nation by the principal governments of Europe, as well as by that of the United States. The missionaries resident in them are subjects of the latter power, and the islands are now in a great measure under the guidance of American influence.

(910.) The CAROLINE ISLANDS embrace a vast number of small islets and groups of rock, scattered over that part of the ocean which lies between the parallels of 5° and 12° N., and between the meridians of 134° and 173° E., extending over nearly forty degrees of longitude. Within this space there are enumerated many distinct groups,—almost all of coral formation.

The Pelew Islands (lat. 8° N., long. 134° E.) constitute the most western portion of the Caroline archipelago: they are moderately elevated, rising in the interior into wooded hills, but are surrounded by dangerous reefs of coral. The chains of the Ralick and Radack Islands, at the eastern extremity of the Carolines, consist of a crowd of low coral islets. The group of the Gilbert Islands, further to the south-eastward, and crossed by the line of the equator, are of similar character, and should perhaps be included within the same general designation.

The Caroline Islands were discovered by a Spanish navigator, in 1686, and received their name in honour of Charles II. of Spain. Their productions resemble those of other parts of Polynesia, excepting that the bread-fruit abounds only in the more eastern groups. The pandanus, which affords a juicy aromatic fruit, grows plentifully. The natives of most of the groups are skilful navigators, and undertake distant voyages in their frail canoes.

(911.) The LADRONE (or MARIANNE) ISLANDS stretch between the 13th and 24th parallels of N. latitude, under the meridians of 145° and 146° E. The largest of them is named Guahan (lat. $13^{\circ} 30'$); the next in size are Rota, Tinian, and Saypan, further to the northward: all the others are of very small dimensions.

The Ladrones are of volcanic formation, and their highest points rise to upwards of 2000 feet: though not in recent eruption, smoke still issues from the craters of some of the islands. Only the five southernmost of these islands are inhabited, and those chiefly by Spanish colonists from the Philippines.

These islands were visited by Magellan in 1512, and received the appellation of *Los Ladrones* from the thievish propensities of the inhabitants, a name for which the Spaniards afterwards substituted that of Marianne, in honour of their reigning queen. The natives were early engaged in conflict with the Spaniards, and were almost wholly exterminated in

the struggle. Most of the islands are now overrun with wild cattle, hogs and goats.

The Ladrões are regarded as a Spanish possession, and are included in the government of the Philippines.

About midway between the Ladrões and the coasts of Japan is a little group of the Bonin Islands, which are of volcanic formation. They are occupied by a few settlers under the British flag.

(912.) The FRIENDLY ISLANDS, or Tongan archipelago, are situated within the southern half of the Pacific. They lie between the parallels of 18° and 22° s., and between the meridians of 173° and 176° w.

The Friendly Islands consist of three groups:—Vavau in the north; Hapai in the middle; and Tongataboo (*i.e.* "the sacred Tonga"): the southward. The island of Tongataboo, which measures twenty miles in length by ten in the opposite direction, is the largest of the number. This island consists of low coral reefs, as do most of the members of the Tongan archipelago: there are, however, two active volcanoes among them. One of these is the small island of Tofoa, which rises to a considerable elevation.

The Friendly Islands had that name conferred upon them by Captain Cook, who visited portions of the archipelago in the course of his second and third voyages, from the hospitable reception given to him by their inhabitants. Subsequent knowledge of the islanders has confirmed this impression in regard to their social qualities, at the same time that it has shown them to be possessed of the usual vices inherent in savage life. They are vindictive and treacherous, and were addicted, until a recent period, to many of the barbarous usages common in this portion of the world. The practice of human sacrifices has only been discontinued within the last few years.

The Tongan islanders are naturally warlike, and are skilful navigators. Their large double canoes—ninety feet in length—will carry as many as two hundred men. The use of the cava-root (a species of pepper) for the purpose of obtaining, by infusion, an intoxicating beverage—drunk upon occasions of public rejoicing—is common among them. This, however, is discountenanced by the missionaries, who have obtained considerable influence over the natives in many islands of the group.

The population of the Friendly Islands has been estimated at between 20,000 and 30,000. The agents of the Wesleyan Society have been permanently established in these islands since 1826, and, after many difficulties, the missionaries may be considered as having entirely Christianised Vavau and Hapai. In Tongataboo there still exists a strong heathen party, whose objections to join the rest of their countrymen, however, arise more from political than religious feeling.

The whole of the Friendly Islands acknowledge a common sovereign—King George—who has been a Christian convert for many years past. The islands are occasionally visited for commercial purposes—chiefly for the sake of cocoa-nuts, which are particularly abundant.

(913.) The SAMOA (or NAVIGATORS') ISLANDS are to the north-eastward of the Tongan group. They embrace the four large islands of Manua, Tutuila, Upolu, and Savaii, with several of smaller size; the whole forming a long chain, which extends (in the direction of east and west) between the meridians of 169° and 173° w. longitude. All of the

islands are mountainous. Savaii, the largest of the number, measures about forty miles in length by twenty-five in breadth. The mountains on Savaii rise to upwards of 3000 feet.

The population of the Samoa Islands, formerly much more considerable, does not now exceed 38,000. The missionaries stationed among them have made considerable progress in the conversion of the natives, whose behaviour towards white visitors is now uniformly friendly and courteous. An English newspaper — the “*Samoa Reporter*” — is issued half yearly at the mission-press on the island of Upolu.

The name of Navigators’ Islands, bestowed upon this group by a French explorer, seems scarcely warranted by comparison of the nautical skill of the inhabitants (considerable as it is) with that displayed by the islanders of the Friendly and Feejee groups. The island of Tutuila is the “*Maouna*” of La Perouse’s unfortunate expedition.

(914.) COOK’S (or HERVEY) ISLANDS lie considerably further to the eastward, between the parallels of 18° and 22° s., and the meridians of 157° and 160° w. They embrace the scattered islands of Rarotonga, Aitiu, Manti, and many others, all of them lofty and volcanic, but of small size. Their population is estimated at 14,000.

(915.) The AUSTRAL ISLANDS, still further to the east, comprise the islands of Rimatara, Oheteroa, Toobouai, Vavitoa, and some others, scattered at considerable distances apart. These islands contain together about a thousand inhabitants, whose language is the same as that of Tahiti.

(916.) The SOCIETY ISLANDS lie between the parallels of 16° and 18° s. lat, and the meridians of 148° and 152° w. They comprise Tahiti, Eimeo, Huahine, Ulitea, Bolabola, and many others, all of them lofty, volcanic, and fertile.

Tahiti (or Otaheite), the largest in size, measures fifty miles in its greatest length, and has an area of 600 square miles. It consists of two peninsulas, — one of circular, and the other of oval, form, — united by a narrow isthmus, and is a beautiful island, accounted the gem of the Pacific. The sides of the mountains, together with the intervening plains and valleys, are clothed with a rich vegetation.

The Society Islands contain at the present time a population of only eighteen or twenty thousand, the majority of whom have been converted to Christianity by the missionaries resident amongst them. They are more frequently visited than any other of the island-groups in the South Pacific, and some commerce (consisting chiefly in the export of pearl-shells, sugar, cocoa-nut oil, and arrow-root) is carried on by the various foreigners settled there.

The native government of Tahiti was a few years since forcibly placed under the protection of France, and this island must now be considered as in all respects subordinate to French influence.

(917.) The LOW ARCHIPELAGO comprises an immense number of coral reefs and islets situated to the eastward of the Society Islands, and stretching between the meridians of 135° and 149° w. Very few of them are inhabited, and the navigation of the adjacent seas is in the highest degree dangerous.

The *Gambier Islands*, a small group lying further to the south-east (lat. $23^{\circ} 10'$ s., long. $134^{\circ} 50'$ w.), are high and volcanic, and contain

two thousand inhabitants. These islands are surrounded by coral reefs belonging to the class distinguished as barrier-reefs (Art. 906.)

At a further distance to the eastward is *Pitcairn Island* (lat. $25^{\circ} 4'$: long. $130^{\circ} 8'$ w.), which is of volcanic formation, with a diversified surface, and a fertile soil. It is two and a half miles long by one m. broad. Pitcairn Island has acquired celebrity from its connection with the mutineers of the "Bounty" who settled there in 1789, and whose descendants (then about 160 in number) were in 1855 removed, with their own consent, to Norfolk Island.

Easter Island, a small and perfectly insular rock, in $27^{\circ} 6'$ s. lat. and $109^{\circ} 17'$ w. long., forms the most outlying member of Polynesia to the eastward. It is from thirty-five to forty miles in circumference, its surface bold and rocky, and exhibits the craters of several extinct volcanoes. It contains the remains of some ancient colossal statues, the origin of which is unknown to the few present inhabitants.

(918.) The MARQUESAS ISLANDS lie nearer to the equator, between the parallels of 8° and 11° s., and the meridians of 138° and 141° w.; at a distance of 900 miles N. E. of Tahiti. The largest island of the group is named Nukahiva (about 200 square miles). The others are Ouhoua (or Washington Island), Ohivaoa, Taowatte, and many of smaller size. They are all mountainous, rising to upwards of 5000 feet above the sea, and are described as particularly fertile and picturesque.

The Marquesas group contains about 20,000 inhabitants, who are a tall, robust, and finely formed race, but are the least reclaimed from barbarism of all the nations of Polynesia. They carry on war with the most savage ferocity, and practise cannibalism.

These islands were discovered by Mendana, a Spanish navigator, in 1595, and received their name in honour of the Marquis of Mendoza, then Viceroy of Peru. They were taken possession of by France a few years since, and are now to be reckoned among the territories of that power.

SECTION III. — NEW GUINEA AND OTHER ISLANDS.

(919.) The remaining division of Polynesia comprises, besides the lands that lie immediately to the northward of Torres Strait (including New Guinea and the adjoining islands of the Louisiade Archipelago), the islands of New Britain, New Ireland, the Solomon Islands, Santa Cruz Islands, the New Hebrides, Loyalty Islands, New Caledonia, and the Feejee Islands.

These islands constitute the "Melanesia" of French geography, that name having been bestowed on them from the distinguishing aspect of their native population.

The native inhabitants of all these countries belong to the Papuan (or Austral-negro) race—a branch of the negro variety of mankind—and are distinguished by dark skins, with woolly and frizzled hair. They are in general (if not universally) sunk in a condition of the lowest barbarism, and are addicted to the worst and most ferocious practices of savage life. The women are treated as the mere slaves of the stronger sex, and habitually meet with ill-usage of the most cruel description. The natural ugliness of these people is increased by the

common practice of perforating the cartilage of the nose, for the purpose of passing pieces of wood or bone through it; and the custom of tattooing, or puncturing the skin, prevails extensively.

The practice of infanticide is very common in all these countries, and combines with the frequent and ferocious wars to prevent any considerable increase of the population.

Still, however, the Papuans are in many respects a superior people to the aborigines of Australia: their villages are better constructed, and their persons are not left wholly destitute of clothing. Their chief employment is fishing, and they are both skilful and enterprising in the management of their canoes.

(920.) NEW GUINEA, or PAPUA, is an island of immense extent, stretching from the meridian of 131° to the south-eastward through twenty degrees of longitude, with a breadth in its wider portion of between three and four hundred miles. Its shores are indented by deep bays. The northern coast is described as high and mountainous: on its southern side the shores are low immediately to the eastward of Torres Strait, but a high chain of mountains stretches through the south-eastern extremity of the island, and attains in its principal summit an altitude of more than 13,000 feet.

Gold is known to occur in many parts of New Guinea. The vegetable productions, so far as they are known, are in most respects the same as those of the East Indian Archipelago: both yams and cocoa-nuts are plentiful, and are largely used as food. Hogs are numerous, and are probably the largest of the native quadrupeds. Birds are found in great beauty and variety, amongst them are the beautiful "birds of Paradise," of which this country is the native seat.

The Dutch claim authority over the western half of New Guinea, up to the meridian of 141° , and have formed settlements on portions of the coasts. The western and northern coasts (as well as the adjacent islands) are visited for commercial purposes by the Chinese and various Malay nations, who procure thence tortoise-shell, massoy bark, and birds-of-paradise feathers; besides edible bird's-nests, tripang, and a few other articles. The group of the *Arroo Islands*, to the south-west of New Guinea (lat. $6^{\circ} 0'$ s., long. $134^{\circ} 10'$ E.), are a great scene of this traffic: they belong to the Dutch, and are said to contain 60,000 inhabitants.

The sea which lies between the south-west coasts of New Guinea and the north-western shores of Australia, extending on the west as far as the island of Timor, is called the *Arafoora Sea*, from the Araforas, or Alfooras, the natives who inhabit the numerous islands which it contains, and who appear to be a degraded variety of the Malayan race.

(921.) The LOUISIADÉ ARCHIPELAGO, to the south-eastward of New Guinea, includes an extensive group of islands lying between the parallels of $10^{\circ} 40'$ and $11^{\circ} 40'$ s., and the meridians of 151° and $154^{\circ} 30'$ E. About eighty islands are known, most of which are inhabited, though only scantily: many portions of them are covered with dense forests. Their shores are everywhere protected by coral reefs, with numerous deep-water channels between the islands.

NEW BRITAIN consists of two considerable islands lying to the north-eastward of New Guinea, from which it is divided by Dampier Strait. NEW IRELAND—an island of long and narrow form—lies further to the north-east: near its north-western extremity is NEW HANOVER,

of smaller size, and, further to the west, the group of the **ABORIGINAL ISLANDS**.

The **SOLOMON ISLANDS** are a long chain which extends (in a north-west and south-east direction) between the parallels of 5° and 11° ; among the principal of them are Bougainville, Choiseul, Isabel, Georgia, Guadalcanar, Arsacidea, and San Christoval Islands.

The **SANTA CRUZ ISLANDS** are situated to the south-east of the last-named archipelago. They comprise the islands of Santa Cruz and Vanikoro, with a few of smaller size. Vanikoro (or Manicolo, as it is termed by the French) was the scene of La Perouse's disastrous shipwreck. At some distance south-eastward of Vanikoro is the small island of Tucopia.

Further to the south, between the parallels of 14° and 20° , are the **NEW HEBRIDES**, which comprise the islands of Espiritu Santo, Mallicolia, Sandwich, Erromango, Tanna, and others.

NEW CALEDONIA, situated between the parallels of 20° and 23° s. and the meridians of 164° and 167° E., is an island of considerable magnitude, stretching from north-west to south-east through a length of nearly 250 miles, with an average breadth of twenty-five miles. It rises into high mountains in the interior. The population of New Caledonia perhaps amounts to about 25,000. At some distance from its south-eastern extremity is the Island of Pines. The French have made a permanent settlement upon New Caledonia within a recent period.

The **LOYALTY ISLANDS**, a thinly-peopled group, are situated to the eastward of New Caledonia, between that island and the archipelago of the New Hebrides.

(922.) The **FEEJEE ISLANDS** are the most eastwardly of the Polynesian groups in which the black or Austral-negro race is found, and constitute the point in which (preserving, in great measure, their respective characteristics) the black and copper-coloured races come nearest into contact.

The group of the Feejees comprises two principal islands, with a great number of smaller size. The meridian of 180° crosses the eastward extremity of the group, which lies between the parallels of 16° and 20° s. latitude, and at a distance of about four hundred miles to the eastward of the New Hebrides. The two larger islands are called Viti-Levu (Great Feejee), which is eighty-five miles long by forty broad; and Vanua Levu (Great Land), ninety-five miles in length by about twenty-five in the opposite direction. There are besides nearly a hundred inhabited islands.

The population of the Feejeean group has been variously estimated at from 75,000 to 300,000 souls, the mean of those numbers being probably near the truth. In the smaller islands that form the eastern or windward division of the group, the missionaries are rapidly succeeding in the work of conversion, but the great majority of the inhabitants of the larger islands are systematically addicted to bloodshed and cannibalism. In proportion, however, as they surpass the neighbouring islanders of the Pacific in the practice of these vices, so do they exhibit a superior energy and intelligence; and some observers have been disposed to question whether this race, which seems to differ more intellectually than physically from the African negro, be not pre-eminently that one of the Pacific which is capable of the highest degree of rational civilisation.

SUPPLEMENTARY SECTION.

ARCTIC AND ANTARCTIC REGIONS.

(923.) Besides the coasts and islands comprised within the Arctic latitudes of Asia and America, there are in either hemisphere some scattered masses of land, which are situated beyond the proper limits of any of the great divisions of the earth's surface, and which make a nearer approach towards the poles than is the case with either of the continents. Amongst these is the archipelago of *Spitzbergen*, situated in the Arctic Ocean, between the parallels of 77° and 81° and the meridians of 10° and 24° E. of Greenwich. *Spitzbergen* consists of several large islands (the principal of them measuring upwards of 200 miles from north to south), which, as their name implies*, present to view high conical summits, covered with eternal ice and snow. These mountains rise to between three and four thousand feet in height, and are separated by narrow valleys, which are for the most part occupied by glaciers. Where they open out towards the sea, the masses of ice accumulated on the slopes of the adjoining hills become detached (by the succession of atmospheric changes, including the powerful action of storms), and are precipitated into the waters, forming huge ice-bergs, which are carried by the currents of the ocean into regions far distant from those where they originated. Probably the most powerful agency in the formation of these immense masses of floating ice is the expansive property of water when in a state of congelation. During the summer the lower concavities of the land are filled with small lakes or pools—the produce of the rains and the melted snows; these wear for themselves fissures and channels in the rock, and as the water freezes with the returning winter, it expands with irresistible force, and tears off huge masses of the solid ice, with its attached stones, earthy particles, and various *débris*.

With each succeeding winter, a barrier of fixed ice extends across the ocean from the shores of Iceland towards the southern extremity of *Spitzbergen*, and thence (in a south-easterly direction) to the coast of *Nova Zembla*. But this disappears during the brief summer, and a partially open sea then stretches far to the northward. Nor does the climate of *Spitzbergen*, though severe, appear to equal in intensity of cold that of *Greenland* or *Nova Zembla*, both situated in considerably lower latitudes. Dense mists sometimes prevail near its shores during the summer, owing to the rapid evaporation then in progress; but in general the air is dry and pure, and distinguished by its remarkable clearness and transparency. The Arctic fox, rein-deer, and white bear, with the eider-duck, and a numerous variety of other sea-fowl, are the most common forms of animal life. The surrounding seas teem with fish, and also with the various *cetacea*, amongst which the seal is here—as upon all the Arctic coasts—an object of particular value, and supplies, in the useful properties of its flesh, its skin, and its fat or blubber (which serve respectively for food, clothing, and the means of light and warmth), several of the wants most severely felt by the few human inhabitants of these dreary regions.

* *Spitz-bergen*, i. e. peaked (or pointed) mountains.

The dominion over Spitzbergen is claimed by Russia, and a few Russian hunters continue here, even during the winter, in the pursuit of the sea-walrus, and other fur-bearing creatures. The western coasts were formerly frequented both by the English and the Dutch, in the prosecution of the whale-fishery in the neighbouring seas.

Spitzbergen makes (with the exception of the recently-explored coasts beyond the head of Baffin Bay) a nearer approach to the Pole than any other known land, and by pursuing the line of its coasts, and stretching thence to the northward, Sir Edward Parry attempted, in 1827, to reach the North Pole itself. He succeeded in advancing (partly by means of boats, and partly by sledges drawn over the broken fields of ice) to the latitude of $82^{\circ} 40'$, which is the nearest point of approach hitherto made towards either extremity of the earth's axis. The ice here was found to be drifting to the southward, so that the attempt to proceed further in a northerly direction was of necessity relinquished.

A few degrees to the south of Spitzbergen is *Bear Island* (lat. $74^{\circ} 30'$ N., long. 20° E.). *Jan Mayen Island*, considerably further to the south-west (lat. 71° N., long. 8° W.), has been already mentioned (Art. 44). Neither of these islands contains any permanent inhabitants.

(924.) *Greenland*, an immense mass of land, has been included in the general description of the islands which form the Arctic Archipelago of America (Art. 713). Its eastern coasts are ice-bound and desolate in aspect, and are seldom visited. Its western coasts, which belong to the shores of Baffin Bay, are indented by deep and narrow inlets, resembling the *fiords* of the Norwegian coast, or the *lochs* upon the western shores of Scotland: upon the banks of these inlets there are some sheltered spots of ground, in which a limited cultivation is capable of being carried on. The summer heat is here considerable, and the winter is not more severe than that of Labrador and Eastern Canada. Towards the more southern portions of this tract, the birch and mountain-ash grow to a considerable size, and potatoes, with a few other culinary vegetables, are raised in the valleys. The rein-deer, the hare, the fox, the eider-duck, and the seal, are among the most valuable members of the animal kingdom; together with a numerous variety of water-fowl, and an abundance of fish.

The native inhabitants of Greenland are *Esquimaux*, who frequent its western coasts as high as the latitude of 76° or 77° . The sovereignty of this region belongs to Denmark, which possesses several settlements upon the eastern shore of Baffin Bay, stated to include a population of about 9000, among whom are a few Europeans. The most northern of these stations is *Upernivik*, in lat. $72^{\circ} 50'$. *Godhavn*, or *Lievely* (lat. $69^{\circ} 15'$), on the island of Disko, and *Godhaab* (lat. $64^{\circ} 10'$), are the respective capitals of the northern and southern districts into which the coast is, for administrative purposes, divided. Good coal is found on Disko Island. Among other places on this line of coast are *Christianshaab*, *Holsteinborg*, *New Hernhut*, *Lichtenfels*, *Frederickshaab*, *Julianshaab*, and *Frederichstal*—the two last-named towards the extreme south, not far distant from Cape Farewell. The Moravian missionaries maintain stations at a few of these places.

The lands visited, within recent years, above the head of Baffin Bay, extend far to the northward, beyond the limits of any permanently habitable region. The tract named *Grinnell Land*, discovered by Dr. Kane in 1854, which stretches along the west side of Kennedy Channel,

between the 79th and 82nd parallels, is the most northerly known land on the globe. Dr. Kane passed the two succeeding winters of 1853-5 on the shores of Van Rensselaer Harbour, on the east side of Smith Sound (lat. $78^{\circ} 37'$), exposed to the terrible severity of a temperature in which the thermometer sank to 70° below zero of Fahrenheit (102 below the freezing point), and where, in certain sheltered situations, the process of freezing was uninterrupted for any consecutive twenty-four hours throughout the year.

(925.) Upon the opposite side of the globe, some extensive tracts of land have been discovered immediately to the southward of the American continent. Among these are Graham Land and Trinity Land, which, with numerous adjacent islands, are included under the general name of *South Shetland*. They lie between the parallels of 61° and 68° s. and the meridians of 53° and 68° w.: further to the east are the group of the *South Orkneys*, and still further eastward a number of islands to which the name of *Sandwich Group* is given. All these lands exhibit a succession of desolate and ice-bound coasts, destitute of human inhabitants, but abounding in walruses, seals, and similar creatures. To the southward of this region, Captain Weddell advanced (in 1823), through an open sea, to as high a latitude as $74^{\circ} 15'$ s.

A tract of coast lying immediately under the Antarctic Circle, and to which the name of *Enderby Land* is given, has been discovered between the meridians of 46° and 54° E.; and nearly under the same parallel, at a greater distance eastward, are *Adelie Land*, and some other lines of coast, together with the small group of the *Balleney Islands* (in lat. $66^{\circ} 44'$ s., long. $163^{\circ} 11'$ E.). In the neighbourhood of the latter, and immediately to the southward of New Zealand, is *South Victoria*, discovered by Sir James Ross in 1841, between the parallels of 70° and 78° s. This land extends nearer towards the South Pole than any other yet known: its shores are lined with lofty and snow-covered mountains, one of which is an active volcano, rising to 12,400 feet above the sea. The name of Mount Erebus has been given to this volcano, and an extensive crater, of somewhat less elevation, situated further to the eastward, is named Mount Terror. Sir James Ross traced the continuity of this line of coast for upwards of 700 miles, and reached, under a meridian lying a few degrees more to the east, the latitude of $78^{\circ} 4'$ s., which is the furthest advance hitherto made in the direction of the southern pole.

(926.) In addition to the above, there remain to be mentioned a few islands, which, though not in so high a latitude, yet bear a certain resemblance to the lands in the more immediate neighbourhood of the polar circle, in their general dreariness of aspect, and the scantiness of their vegetation. These comprise *Kerguelen Land* (lat. 49° s., long. 70° E.),—the groups of *Crozet and Marion Islands*, and *Prince Edward Islands*, situated further to the westward, between the parallels of 46° and 47° s.,—and the small detached islands of *St. Paul* and *Amsterdam*, both lying under the meridian of $77^{\circ} 36'$ E., the former in $39^{\circ} 52'$ s. latitude, and the latter about sixty miles further south. All of them are situated in that portion of the sea which stretches from the southern limits of the Indian Ocean towards the Antarctic Circle, and which is generally spoken of as the Southern Ocean.

None of the above-named islands are inhabited. Kerguelen Land, which is of considerable magnitude, was named by Captain Cook the

"Island of Desolation," from its rugged and inhospitable appearance it is composed of igneous rocks, which rise into hills 2500 feet high. Paul and Amsterdam Islands lie in the immediate track of vessels passing from the Cape of Good Hope to the shores of Australia; both of them are high and rocky, and the more southerly—Amsterdam Island—is of volcanic formation.

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